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Генералъ-Адмиралъ Скобелевъ

SKOBELEFF.

From a photograph taken at Gok Tapa, 12th February 1881.



THE (WAR IN TURKUMANIA:

SKOBELEFF'S CAMPAIGN OF 1880-81.)

BY

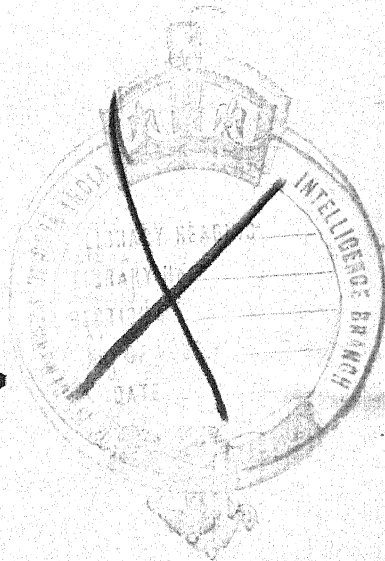
MAJOR-GENERAL N. I. GRODEKOFF,
OF THE IMPERIAL RUSSIAN ARMY.

Translated from the Russian

BY

LIEUTENANT J. M. GRIERSON, R.A.

VOL. I.

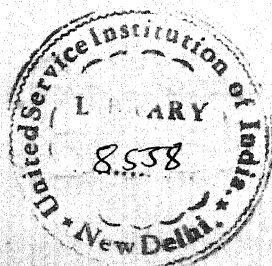


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V

TRANSLATOR'S NOTE.

IN the spelling of proper names I have followed, as far as regards Eastern names, the Hunterian method; but in cases of doubt the Russian method of transliteration has been adhered to.

The only letters which require explanation are the following:—

<i>j</i>	is to be sounded like <i>j</i> in the French “jour.”
<i>u</i>	„ „ <i>oo</i> in “moon.”
<i>kh</i>	„ „ <i>ch</i> in the German “hoch.”
<i>iu</i> }	„ „ <i>u</i> in “pure.”
<i>yu</i> }	
<i>ia</i> }	„ „ <i>ya</i> in “yard.”
<i>ya</i> }	
<i>ch</i>	„ „ <i>ch</i> in “church.”
<i>a</i>	„ „ <i>a</i> in “far.”

Sums of money have been left expressed in *roubles*, as the value of this standard is of a constantly varying quantity. A good rough rule is to allow ten *roubles* to £1 sterling.

As regards lineal measurements, all Russian measures have been transformed into English (except in a few special cases) as follows:—

1 <i>vershók</i>	= 1.75 inches.
1 <i>arshín</i>	= 2 feet 4 inches.
1 <i>sájen</i>	= 7 feet.
1 <i>verst</i>	= $\frac{2}{3}$ rds mile.

For measures of weight, where accuracy is required, the *pud* has been calculated at 36·1 lbs., and the *pfunt*, or pound, at ·9 lbs. English; but where only round numbers are given, 100 *puds* have been taken as equal to 32 cwt.; 10 *zolatniks* = 3 oz.; and 1 *vedró* = 2·7 gallons.

STAFF COLLEGE; }
February 1884. }

J. M. GRIERSON.

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THE WAR IN TURKUMANIA: SKOBELEFF'S CAMPAIGN OF 1880-81.

CHAPTER I.

Short description of Trans-Caspia—Mangishlák—The Uzboi—Turkumania—Routes—Russian settlements—Kirghiz and Turkumáns—The Akhál Oasis—Marv—Manners and customs of the Turkumáns—*Alamáns* (Turkumán raids)—Nur-Verdi-Khán.

THE large tract of country between the Caspian and Aral Seas, bounded on the north by the Sám sands, on the south by the River Gurgán and the Kopet-Dágh mountains, and on the east by Afghán-Turkistán, forms the so-called Trans-Caspian territory.*

In describing it let us begin with *Mangishlák*.

Under this name, which means "place of wintering" (*Mán-Kistau*), is included the space between the Caspian Sea, the Ust-Yurt, and the Gulfs of Mértvi-Kultuk and Kára-Bughaz.

Mangishlák consists of two large peninsulas—(a) *Buzáchi*, formed by the four gulfs,—Mértvi-Kultuk on the north, Kaidak, dividing it from the mainland on the south-east, and Kára-Kiehn and Kóchak on the opposite sides of its isthmus on the south; and (b) *Mangishlák Proper*, which is bounded on the south by the Gulf of Kára-Bughaz.

The coast of the peninsula of Buzáchi is very marshy, and even the smallest boats cannot approach it on account of its small depth of water. For three months in winter the sea between Buzáchi and Gurieff is covered with such a thick coating of ice, that there is direct communication over it between the peninsula and the Ural district. There are several bays with good anchorage on the coast of Mangishlák, such as Sári-Tásh, Tub-Karagán, Alexander Bay, and Kindarli.

The peninsula of Buzáchi is divided from Mangishlák Proper by the Ak-Tau and Kára-Tau Hills, which have very gentle slopes, and do not attain a height of 400 feet above the sea. The Ak-Tau, or White Hills, are of chalk formation, and extend for 50 miles from the sea to the Gulf of Kóchak, and thence

to the Gulf of Kára-Kichu, where they terminate, forming an isthmus between the peninsulas. The Kára-Tau, or Black Hills, which abound in coal, are to the south of the other range and parallel with it, ending at the wells of Berdali close to the Ust-Yurt.* The latter approaches the Gulf of Kaidak, forming rocky but not very high precipices and terraces, difficult to descend and falling sheer into the waters of the gulf. These precipices and terraces are called the Chink, and from the Gulf of Kaidak extend almost in a meridional direction to the Gulf of Kára-Bughaz. The rest of Mangishlák is almost flat, being only cut up in places by ravines and low hills; but in the south part of the peninsula there are two detached hills,—Kárashtshek, which attains a height of 1,050 feet above the Caspian, and Chairli, to the east of Kindarli Bay, and of about the same height.†

The water-supply of the peninsula exists in the form of lakes, which are mostly bitter; but there is some good fresh water in the hill streams and in wells. There are in all eight bitter lakes on Mangishlák and two on Buzáchi. Springs of fresh water are found in the valleys of the hills, but they only flow to a short distance from them. Those with the most water are at Jángildi, Tushtshubek, Chepe, Undi, Agáshti, and also close by the wells of Berdali.

There is a large number of wells, some of which belong to private individuals and others to whole tribes. The water of these is mostly brackish, but there are others wherein it percolates through lime strata, and is therefore fresh. The wells in these parts seldom exceed a depth of 14 feet, and, as a general rule, the closer they are to the Ust-Yurt, the deeper they are. It must be remarked here that the names of all wells refer to their depth. Thus shallow wells are "Espe"; those under 14 feet, "Urpa"; those under 28 feet, "Kuduk" or "Kuyu"; and finally those under 42 feet, "Chingrau."*

The soil† is usually sandy-clay, but there are stretches of sand and salt-hollows. On the eastern border of Mangishlák, at the foot of the Ust-Yurt, there extends from the Gulf of Kaidak to the Kára-Bughaz an unbroken belt of sand, 183½ miles long and from 12 to 40 miles broad.

The sea, which bounds Mangishlák for 400 miles, and runs in deep bays into the heart of it, might have been expected to have influenced the climate; but it is not so. In summer the heat, especially in the sandy regions, attains 50° Réaumur (112½° Fahr.), and in that season the shallow wells even dry up. In winter there are 20° R. (45° Fahr.) of frost. The constant winds are almost insupportable, as in summer they are suffocating, and in winter, especially in exposed places, they are highly dangerous. The rain and snow fall is insignificant. Thus, for example, in 1870 at Alexandrovsk there were only 16 rainy or snowy days, and the total rain or snow fall was only 0.38 inches.‡ The cause of this peculiar dryness of atmosphere is, that in summer the prevailing winds are from the south-east and in winter from the north-east. Thus the poverty and asperity of nature in Mangishlák are easily explained. Nowhere are there trees, grass, or other objects pleasing to the eye to be seen, and only in places are found steppe-grass, feather-grass, and wormwood; but these, however, provide excellent forage for the camels, sheep, and horses of the nomads.

In spite of the insignificant quantity of vegetation, fuel in the shape of dry dung (*kizyák*) is almost everywhere abundant. Besides dung, there is a

* Lomakin: *The Mangishlák Peninsula*, p. 7.—*Author*.

† Stebnitski: *Notes on Turkumania*, p. 58.—*Author*.

peculiar kind of grass called "chelegán," the thick roots of which in the beginning of winter are used as fuel; the roots are torn up and burnt like ordinary wood. There is a great deal of this plant on the peninsula of Buzáchi, where it is found everywhere.

The trees on the peninsula can be counted—so few are there. There is a grove of mulberry trees in a ravine at the wells of Hanga-Bába, 16½ miles from Fort Alexandrovsk. The Kirghiz preserve them as the apple of their eye, water them, and think it a sin to cut a twig off them. Then in 1855 Colonel Uskokoff planted a garden of about 8 acres in extent at Alexandrovsk, in which there grew up about 100 trees, of which 60 are fruit-trees. The soldiers of the garrison cultivate the ground about the trees, and irrigate it by means of two Persian water-wheels.

Notwithstanding the abovementioned disadvantages, the climate of Mangishlák is healthy, and malignant fevers are unknown. This may be ascribed to the equality of temperature by night and by day, and the absence of sudden changes from great heat to cold, such as take place in Turkumania.

Among the animals of the peninsula may be mentioned the wild sheep (*arkhára*), wild goat (*Saigak* or *Kára-Kuiruk*), and the fox. It is said that wild horses are also found. The principal birds are ducks, geese, swans, and goosanders, which are found on the shallow gulfs of Kóchak, Kaidak, and Kára-Kichu; and so abundant are they, that much guano is produced on the islands off the coast of Buzáchi.

As to commerce and industry, the apparently desert Trans-Caspian territory is not so unfruitful as appears at first sight. Attempts at cultivating grass for forage by irrigation along the banks of the hill streams with the help of Persian water-wheels have given tolerable results. The Kára-Tau abounds in coal-beds. The working of this mineral, which began in 1871, near the wells of Tartali and Apazir, has given good results. The fitness of the local coal was experimented upon for warming barracks and in the war-schooner *Bukhárels* during a trial trip of 95 miles. In consequence of the success of this voyage, the "Caucasus and Mercury Company" ordered 50,000 *puds* (16,000 cwt.) of coal at 12 kopecks a *pud* to be delivered at Nicholaievsk in place of the English brown coal, a *pud* of which costs 40 kopecks at Astrakhan. On later dates three more coal-beds have been opened up, *viz.*—(1) At Chair, between the Kára-Tau and Ak-Tau, and 20 miles from the Gulf of Kóchak; (2) at Kára-Kiya, 13½ miles from what was once known as Alexander Bay; and (3) at Cape Tokmák, on the shore of Kindarli Bay.*

Amongst other local industries may be mentioned the fisheries and seal-hunting on the coast of the peninsula and on the islands off it.

The amount of yearly trade is about 400,000 *roubles*, of which 180,000 *roubles* represent the value of Russian red goods.

The *Ust-Yurt* is bounded on the west by the steep terraces running from the Mértvi-Kultuk Creek to the north-east extremity of Kára-Bughaz, on the east by the Sea of Aral, and on the south mostly by the Uzboi, or so-called old bed of the Amu-Daria. The *Ust-Yurt* plateau rises to a height of 500 or 600 feet above the Caspian. Its slopes are steep and broken; they are accessible in a few places only, which are known by special names. A conviction that the *Ust-Yurt* was impassable reigned in the mind of our troops for nearly a century. Although this conviction had been shaken by our campaigns of 1870 and 1871, when our reconnoitering parties passed over its northern

* The working of coal has at present been suspended, in consequence of the increase in the use of naphtha.—Author.

parts and penetrated to the west shore of the Sea of Aral, nearly to Kasárma, still it was thought that if a move had to be made on Khiva from Orenburg, our troops could only cross the Ust-Yurt in very early spring. The Kirghiz tried in every way to strengthen this belief, so favourable to themselves, as, in their state at that time, all those discontented with our rule could retire to the Ust-Yurt, where they were safe from our blows. When, therefore, our troops appeared on the Ust-Yurt, the Kirghiz did all they could to *limit* the circle of their operations. They said that the movement of troops south of the parallel of the former fort of Novo-Alexandrovsk was impossible; that there was very little water there, and that what there was, was injurious to health; also that in the interior of the Ust-Yurt we should encounter want of water and fuel, and fearful heat. All these terrors were dissipated by the Khivan Campaign of 1873; and when the Mangishlák Column crossed the Ust-Yurt in May, trains of the Orenburg Column were moving across it all the summer from the Emba to Cape Urga, and for some months a corps of observation was established on the Sám sands.

Up to this time it had appeared necessary in order to cross the Ust-Yurt to collect the troops in winter or earlier, if possible, and take them across it in early spring. With this idea, General Krijanóvski had, at the end of 1871, prepared a plan for an attack on Khiva from Orenburg, in which he proposed to avoid the difficulties of a winter march across the Ust-Yurt by concentrating the troops detailed for the expedition during the autumn at the Irgiz and Emba Forts, place them in *kibitkas* all through the winter, and advance in early spring. This conviction of the inaccessibility of the Ust-Yurt not only in summer, but also in the end of spring, was not without its influence on the plan of the actual campaign against Khiva, in which, to ensure co-operation, the Orenburg Column was ordered to advance in the depth of winter.

The movement of the Orenburg Column across the Ust-Yurt in 1873 was in no way hindered. Wheeled carriages and guns were easily brought along, thanks to the stony soil and the possibility of easily avoiding the ravines and watercourses met with. With such abundant equipment and supplies as the Orenburg Column possessed in 1873, the difficulties of the Ust-Yurt were conquered at once, and it was crossed without loss. If the Mangishlák Column did not manage to cross so easily, the blame must be laid on defective equipment and insufficiency of supplies, resulting from the haste with which it was organized and the want of transport.

We have seen that in 1880, 2,000 camels crossed the Ust-Yurt in one column from the Lower Emba to Kindarli, and found on it a sufficiency of water and forage.

Lastly, the merchant Vanushin has organized a transport service on carts from the mouths of the Amu to the Mërtvi-Kultuk.

A more dismal and monotonous country than the Ust-Yurt is seldom seen. Its soil is lime (of sea-shells) or clay, and so level that rain water gathering in hollows, after several months is no more than two, and at the most three, inches deep. Rain falls even more seldom than on the Mangishlák peninsula, and the air is excessively dry; so much so that on the return of the Mangishlák Column from Khiva in August and September 1873, they found numbers of their camels which had died during the advance in May intact and dried up like mummies. The wells are as numerous as in other parts of Trans-Caspia, but they are for the most part frequented by nomads: their depth, too, is slightly greater, wells 70 to 175 feet deep being frequently met with. Thus on the route from Kindarli Bay to

Khiva the wells are of the following depths:—Kinir, 210 feet; Dusembai, 203 feet; Kizil-Akhir, 126 feet; Baichagir, 102 feet; and Khan-Bai, Kos-Ak-Kruk, and Karsak-Jainák, each 175 feet. Very shallow wells in hard soil are invariably bitter. The water in the deeper ones has a taste of sulphur or of sulphuretted hydrogen, and only that in the very deep wells is perfectly fresh; but of these latter there are very few. On the Ust-Yurt there are in places sandhills, and in them there is so much alkali, that the water of wells sunk in them is tolerably fresh. The Sám sands, too, are the best places for nomad encampments, as there is much water near them, and not far below the surface. Fuel, too, in the shape of *saksaul* and tamarisk is abundant in the neighbourhood.

A little forage is found immediately after the melting of the snows; at first it is the remains of the last year's vegetation, but after that new verdure springs up. This forage is very good for camels, and Cossack and Kirghiz horses also eat it; but with hard work they require also a ration of 3 to 4 *gárnets* (9·9 lbs. to 13·5 lbs. English) of oats. The green food consists of occasional grasses, which for the most part belong to the wormwood species.

March and the beginning of April, although the climate is then not so severe as in February, are considered winter months. The frost, especially at night, descends in the latter part of March to 20° R. (45° F.), and whirlwinds rage all through this month. In the middle of April there is a sudden change to great heat, and then the summer begins. At the end of August the weather gets colder, and in September there is slight frost at night, although in the daytime the heat is sometimes 20° to 25° R. (45° to 56½° F.). Snow begins in December, and whirlwinds (*buráns*) rage in January and February.

On the Ust-Yurt the winter is more dangerous than the summer; and to traverse this plateau, therefore, in the former season, as experience has shown in so many instances, is a rash proceeding.

On the southern border of the Ust-Yurt extends a long hollow full of miniature green *oases*, alternating with salt lakes, and having all the appearance of a former riverbed. This hollow, as some suppose, is the bed of some river which formerly flowed here, known in former times as the Oxus, but which is now called *Uzboi* by the Turkumáns.

This bed begins at the south-west corner of the large basin of the Sárikámish Lake, and thence, following the outline of the slope of the Ust-Yurt, runs to the Igdi wells. Here it turns to the west, and, passing between the Great and Little Balkháns at the wells of Aidin, it finally falls into the Bay of Balkhán. Above the Lake of Sárikámish, the Uzboi has several beds, of which the following four are the best known and most explored.

The oldest begins 80 miles below the Bukhárán town of Chahárjui, and runs parallel with the present course of the Amu-Daria to Fort Kabakli, where it turns to the west as far as the Sheikh wells. This bed, which is known by the name of 'Unguz,' has been dry for a long time; but in its bottom are still some wells near the surface with an abundant supply of fresh water. The second bed lies within the limits of the Khánate of Khiva. Leaving the Amu near Hazár-Asp, it passes by the town of Khiva, and runs to the wells of Charishli on the Uzboi. This bed is even now visible throughout its whole extent, except in a few places, where it is filled up with sand. It is called at first Zeikyash, then Yaman-Kagikyal, and finally Tonu or Sonu Daria.

The third bed is known by the name of Daudan, and is also in the Khánate of Khiva. It begins a little east of the town of Khanki, and after skirting the towns of Tash-Hauz and Iliáli, runs along the foot of the hill of Man-Kir,

and through the Lake of Tunuklu into the south-east corner of the Sári-Kámish basin.

Lastly, the fourth bed, or Darialik, is frequently even now filled with water from the Amu-Daria at its spring floods. It begins $4\frac{1}{2}$ miles west of Kuhna-Urganj, and falls into Lake Sári-Kámish at its north-east corner.*

The Uzboi has a great attraction for the nomad Turkumáns, as it consists of a large number of good pasture grounds in the midst of boundless sands. There is usually an abundant supply of water between the wells of Topiatan and Tandarli, where, in an extent of 60 miles, there are 16 wells from $\frac{2}{3}$ to $8\frac{2}{3}$ miles apart.† Besides abundant water, the nomads find here excellent forage for their horses and camels. The bottom of the Uzboi is covered with vegetation of all kinds, such as is met with in Turkumania only, in the greatest luxuriance and of great height. There are juniper thickets here, which will conceal a mounted man; and in the high reeds live herds of wild boar. As the Uzboi approaches the Balkháns, this vegetation becomes more scanty.

The bottom is muddy clay and sand, which in places form hillocks. In the valley-line of this bed, sometimes approaching one bank, sometimes the other, is a narrow strip bounded by low banks, which forms the present bed of the stream, and is clearly marked by salt or fresh lakes, by blackish marshy salt-hollows, or glittering expanses of pure salt. In places the bed divides and forms islands. If looked down upon from a height, it has quite the appearance of a river 35 to 70 feet broad.‡

The country to the north and south of the Uzboi has the following characteristics. First rise the rocky heights of the Great Balkhán (the highest point of which, Dág-Dirim, attains 5,450 feet), and their prolongation to the south, the stony chains of Kurianin-Kára and the Kuba-Dágh Hills. The southern and western slopes of the Great Balkhán bound the valley of the Uzboi on the north, from its mouth in the Bay of Balkhán to the wells of Buuráji. To the north of the Great Balkháns extend the sands of Chil-Mamed-Kum, which on one side are bounded by the slope of the Ust-Yurt, and on the other by the Uzboi between the wells of Akhcha and Dekeha. To the south of the Uzboi there also extends a broad expanse of sands dividing the Great from the Little Balkháns, and extending over an enormous region to the confines of the Khánuate of Khiva. To the south-east of the Little Balkháns extends a ridge in an unbroken line for 225 miles, called at first Kuren-Dágh, and then Kopet-Dágh, and finally uniting with the Gulistán Range. The region between the Atrak, the Kuren-Dágh, the Little Balkháns, and the Caspian is either sandy or covered with salt-hollows.

Thus the country to the south of the Ust-Yurt looks like a sandy sea, out of which rise like islands the Great and Little Balkháns, the Kurianin-Kára, and the Kuren-Dágh. This country is called Turkumania.

The ridge of the Kopet-Dágh rises towards the south-east, and therefore the passes over it, which at Bámi are 2,000 feet above the sea-level, opposite Gok-Tapa, are about 3,500 feet high. The spurs of the main range to the north are short, but to the south they run for 60 miles, and form an excessively

* *Notes of the Caucasus Section of the Imp. Russ. Geog. Soc.*, Vol. IX, by Colonel N. Petrusévitch.—*Author*.

† *Viz.*, from Topiatan, Saiyad-Kuyusi 1½, Kára-Tagelek ¾, Tokhlu 1½, Emerluko ¾, Yashap 1½, Dekhap 1½, Dekcha 9, Akhcha ¾, Dzoyuruk 6½, Buuráji 8½, Chaloi 6½, Kiz-Pára 6, Alti-Kuyi 1½, Orta-Kuyi ¾, Tandarli 8½.—*Author*.

‡ *Colonel Markozoff's Reconnaissance, in the Proceedings of the Caucasus Section of the Imp. Russ. Geog. Soc.*, Vol. I, 1872, No. III, pp. 97-99.—*Author*.

cut up and desert region, turning gradually into a fruitful plateau along the course of the Gurgán, which fertility accompanies the river-valley down to the Caspian. More to the east, in the Persian province of Daragaz, rises the river Atrak, a stream with much water, which flows through a hilly country till it enters the plain at Chát, where it receives the Sumbár, its largest affluent. The latter, at $33\frac{1}{2}$ miles above its junction with the Atrak, at Duz-Olum, unites with the large mountain stream of Chandir. Further to the east, we find the Tajand River, which is almost parallel with the foot of the Kopet-Dágh, and beyond it the large Murgháb River, which waters the Marv Oasis.

These rivers are the only ones of importance in Turkumania, as the others are only hill streams, which run but a short distance from the foot of the hills and then disappear in the sand.

Notwithstanding the variegated character of the Turkumán country (coast-line, hill districts, and steppe), it is throughout very deficient in moisture. There are places in which, over an area of 120, 200, 450, and even a larger number of square miles, there is only one group of wells. Almost everywhere the soil is impregnated with salt; for its incrustations are alike found on the slopes of the Uzboi, among the sands, in salt-hollows, on the Atrak, and even on the bare slopes of the Kuren-Dágh.*

The sea-coast of Turkumania from Krásnovodsk to the mouth of the Gurgán is very diversified in character. There are only three places where the hills approach the sea at which there is good anchorage. Such are the bays of Soimónoff and Murávieff in the Gulf of Krásnovodsk, in which, although protected on all sides, there is always a heavy sea. To the south, from the island of Cheleken to the Persian frontier, the coast is very open, and the water is extremely shallow, and consequently there are no safe anchorages. At Chikishliar, for example, a ship drawing 9 feet of water must remain $3\frac{1}{2}$ miles off shore. Within the confines of Persia, at the mouth of the River Kára-Su, there is a tolerably good anchorage.

In Turkumania the climate, generally speaking, is very hot, and the air is extraordinarily dry; but the characteristic and most trying feature of the climate is the excessive difference between the temperature by night and by day. From the middle of October till January in calm weather the temperature, which during the day has been insufferably hot, falls directly the sun sets, and by next morning a difference of 28° R. (63° F.) may be observed. Besides the difference of temperature, which varies with the season of the year, and sometimes rises to 60° R. (135° F.) and upwards, there are also great changes in it, caused by the direction of the wind. A north-east wind, for example, always lowers the temperature. In September it has been observed that a temperature by day of 27° R. ($60\frac{1}{2}^{\circ}$ F.) has been reduced after two days of north-east wind to 6° R. ($13\frac{1}{2}^{\circ}$ F.); and when the wind fell, the heat has again risen to its former degree. These north-east winds are always dry; and if they blow frequently, they cause fits of asthma. A westerly, blowing from the sea, sometimes moistens the air and causes rain.†

The rains in this country are also characteristic of it; and sometimes for months together none falls, although the period from December to April is considered the rainy season. At other times it falls in torrents, and all the streams are filled and large lakes are formed, which, in spite of the heat, do not dry up for several months. There have been no such rains for fifteen years at

* Stebnitski's *Account of a Journey in Trans-Caspia in 1872*, Vol. I., pp. 25-29.—Author.

† *Idem*, pp. 26-27.—Author.

a time; but they have been known to fall three years in succession. Such a fact is, however, considered an extraordinary occurrence by the Turkumáns. The Yamúts, who nomadize to the west of Kúhna-Urganj, say that there was a deluge of this sort in 1857, another in 1866, and after that none till 1875.* In the end of 1881 there was another such rainfall, which destroyed the bridges and culverts on the Trans-Caspian Railway. Bulmuzir, a ravine in limestone formation 35 to 70 feet deep, may be cited as a proof of the nature and power of these rains: in this fissure the rains have formed a reservoir in which fresh water lies and never dries up.

Meteorologists ascribe such rains to volcanic action, and there is no doubt that volcanic agency is still at work in the region we are describing. A long array of facts, taken from the *Geographical Description of the Caspian Sea* by Lieutenant Pushtshin, and put together by the late General Petrúsevitch in his answer to Rawlinson, supports this view.

Of this incessant volcanic action the earthquakes are also proofs; and of these the most destructive was that at Kuchán in 1869. In the beginning of January 1881 a shock was felt round the wells of Kutoz for $13\frac{1}{2}$ miles, which was reported on by Captain Masloff, of the Engineers.† On the White Hills, near Chikishliar, there are some small volcanoes; and even now they throw out mud with a smell of sulphuretted hydrogen. Finally, the Marv Tekkes assured Alikhánoff that earthquakes occurred with them every seven years.

Considering the want of water and of rain, the cultivation of Turkumania might be expected to be at a low level. In fact, the only cultivated tracts are the so-called Akhál-Tekke *Oasis* along the foot of the Kopet-Dágh, which is watered by hill streams, and further to the east, along the Tajand and Murgháb, the *oasis* which belongs to the Tekkes of Akhál and Marv. There is also cultivation along the Gurgán from its source to half-way to its mouth. The rest of the country is a waste overgrown with steppe-grass, wormwood, and some kinds of short grass, which constitute the food of sheep and camels—animals that are not particular as to their eating. In places also thickets of *saksaul* and tamarisk are met with, which almost attain to the dignity of woods. The banks of the Atrak are somewhat more fertile, and on them the nomad Yamúts find a refuge. Along the middle course of the Uzboi there are also some *oases*, as we have mentioned above.

In all these *oases* we see that the half-settled Turkumáns have attained a high degree of proficiency in agriculture. Here they sow wheat, maize, cotton, sesame, and *jugára* (*sorghum*); cultivate large beds of water-melons, and in places they even have gardens of fruit-trees and vineyards. The fruitful valley of the Gurgán is rich in all products of a purely tropical character; and on the heights and in the valleys of the Kopet-Dágh and along its streams are found groves of willows (*Kara-gatchi*), ash, and trees peculiar to southern woods. In other parts of the country trees are seldom met with. Alikhánoff says that for $60\frac{1}{2}$ miles from Kari-Bent, between the Tajand and the Murgháb, he passed through a large forest of trees, which in some places was almost impenetrable.

The animal kingdom has not many varieties to show. Wild goats and sheep in the hills, wild asses (*Kulán*) and deer in the plains, and wild boar in the reed swamps of the Uzboi and Tajand and on the Kopet-Dágh, are about all

* N. Petrúsevitch: *Journal of the Caucasus Section, Imp. Russ. Geog. Soc.*, p. 173.—Author.

† *The Conquest of Akhál-Tekke*, p. 3.—Author.

the species met with by the hunter. Sometimes panthers and tigers from the province of Astrábad appear on the banks of the Atrak and Sumbár; but these are guests which have come from afar and not regular inhabitants of the country. But tigers are known to inhabit the swamps of the Tajand,* and thence they sometimes visit the Murgháb. Among the birds, those most frequently met with are the steppe partridge, pheasants, and sometimes eagles and falcons; and near the wells there are various kinds of small birds, which are distinguished by their powers of descending deep and narrow wells. The insect kingdom is tolerably rich and varied, and ranges from troublesome and omnipresent mosquitoes and gad-flies, to scorpions and *Phalangidæ*, which appear at the first step on the stony or clayey soil of the lower slopes of the Kuren-Dágh, Kopet-Dágh, and Great Balkháns.

In the European sense of the word, there are no roads in Turkumania, and the routes are mere camel paths, hardly traceable in places, and running from well to well. That is why a small descent or a narrow cleft in the hills has so often stopped our troops until the slope had been improved or a pass cleared. Along the Uzboi and the slopes of the Ust-Yurt alone are found descents, which have been improved by the Turkumáns nomadizing there. Nevertheless, the existence of wells with drinkable water at a day's horse or camel march apart define the roads very distinctly.

The most important routes in Trans-Caspia are :—

I.—The road from Fort Alexandrovsk to the furthest point of the peninsula of Buzáchi, whence in winter there is a road across the ice to Gurieff. The length of this route, from the fort to the sea, is 11 marches, or 186½ miles. The wells are mostly shallow, with a tolerable supply of fresh water. There is much forage and plenty of dung to use as fuel. Caravans traverse the road in 12 days; single horsemen or small parties of cavalry in 6 days. The road across the ice is 190 miles long. Snow is used for drinking, and fuel is found on the islands and along the coast line.

II.—The route from Fort Alexandrovsk to Krásnovodsk is 412 miles long, and cannot be traversed by caravans in less than 23 days, nor by cavalry in light marching order under two weeks. On the road there are 20 halting-places at wells, the water of which is good and abundant everywhere. The soil is sandy, and not always good-going.

III.—Road from the Lower Emba to Krásnovodsk, which was used by 6,000 Orenburg camels purchased for the expedition of 1880-81. This will be described in detail when mentioning the operations of Colonel Ivánoff in the Orenburg District (*Chapter X*).

IV.—The caravan route from Fort Alexandrovsk to Khiva.—This lies *viâ* Mangishlák and the Ust-Yurt, and is considered one of the best on the east coast of the Caspian. There are neither hills nor ravines along it, and the road is straight and level, and the soil is mostly clayey sand, over which wheeled carriages can be driven. There are some sands between Básh-Kuduk and Bish-Akti. The ascent to the Ust-Yurt is not very steep nor stony. Wells are sufficiently frequent, and contain abundant water with a muddy taste. Only at the very borders of the *oasis* is there a waterless stretch of 46½ miles. The length of this road (by Kangrád) is 676 miles.

The caravan route from Kindarli to Khiva, over which the Mangishlák Column advanced in 1873, joins the above road very soon, and what has been

* Alikhanoff killed a good deal of game in the above-mentioned woods between the Tajand and the Murgháb. The drivers of the caravan killed hares with sticks, and the guides shot wild boar and golden pheasants with their berdans. Herds of wild asses and goats were met with. —*Moscow Gazette*, No. 194, 1882.—*Author*.

said of it applies to this also. The total length from Kindarli is 542½ miles.

V.—The merchant Vanushin has recently established a wheeled transport service across the Ust-Yurt between the Yaman-Airakti Creek of the Mértvi-Kultuk and Kangrád for the conveyance of Amu-Daria fish. Its length is 299 miles. The road is very good-going, and abounds in water and forage. Evidently there is a future before this road.*

VI.—The road from Krásnovodsk to Khiva by Gezli-Ata, Aoglamish, Dekcha, Kuhna-Urganj, and Kázavat is 533½ miles long. There is a sufficiency of water on the first 200 miles, but from Kum-Sebshen to Dekcha there is little of it, and beyond that is the *Oasis* of Khiva.

VII.—The route from Krásnovodsk to Chikishliar runs along the shore of the Bay of Balkhán and through Mulla-Kári. Its length is 248½ miles. The marches are over different tracts, sometimes sandy and sometimes salt-hollows. The forage is bad. The wells are not very deep, but still are tolerably well supplied with water.†

VIII.—The route from Chikishliar by the Uzboi to the wells of Igdi is 281½ miles long. Part of it is along the coast by the White Hill, thence it runs between the Great and Little Balkhás, and finally along the bed of the Uzboi. The country is sandy, clayey, or broken up by salt-hollows; and the wells are mostly bad, and often smell of sulphuretted hydrogen.

IX.—The road from Igdi to Khiva, by which Colonel Kuropátkin's Turkistán troops marched in 1880-81 to join the Akhál-Tekke Expedition, will be described in detail in the account of the march of this detachment to the Akhál-Tekke *Oasis* and back.

X.—The road from Gok-Tapa to the Khivan *Oasis* runs from Kuhna-(Old) Gok-Tapa to Zmukshir by the wells of Ilek-Salesh, Mambet-Yár, Darband, Laili, and Kizil-Ja-Kuyusi, and is 410 miles long. It is quite unfitted for the movement of even small bodies of troops. The wells with most water are those of Sheikh and Laili, and the longest waterless stretch is 128 miles. The numbers of skeletons of animals seen along this road testify to its difficulties; and in one place Lieutenant Kalitin found the skeleton of a man. The road is sandy, and there is a sufficiency of forage.‡

XI.—The road by the Atrak and Sumbár to the *Oasis* of Akhál-Tekke runs from Chikishliar, at first for 20 miles to the south, and then follows the right bank of the Atrak. But if from Chikishliar the desert to the wells of Karája-Bátir be crossed straight to the east, the road is shortened by two marches. Thence the stages are at the crossing-places of the Atrak. This route runs by Chát, the place where the Sumbár falls into the Atrak, and thence follows the right bank of the former river. The water of the Atrak and Sumbár is muddy, and more like liquid mud than water; and the drier the season of the year, the more brackish is it. The country on the right bank of these rivers is a plain with scanty vegetation. Near the Kuren-Dágh the road assumes a mountainous character. In the hills themselves there are two roads—one, leading to the beginning of the *Oasis* at Kizil-Arvat, runs from Duz-Olum to the springs of Uila-Chashma and Koshluk-Chashma, where it crosses a pass 2,000 feet above sea-level; the other runs from Duz-Olum to Társakan, and thence crosses the Band-Hassan Pass to Bámi. Both roads are rich in fresh water,

* Later on in this work some further reference will be made to this route.—Rev.

† Short Report of Topographer V. V. Jukoff on the Reconnaissances of 14th (26th) November and 1st (13th) December 1872.—Author.

‡ The wells of Kizil-Ja-Kuyusi and Chágil, when visited in 1881, were filled up (Report of Lieutenant Kalitin, No. 120, of 20th February (4th March) 1881).—Author.

but their ascents and descents require improvement. The length of the road from Chikishliar to Kizil-Arvat is 220 miles, and of that to Bámi 203½ miles.

XII.—Road from Michael's Bay to Akhál-Tekke. This route is very badly supplied with water in any form, as its wells are few in number and contain bitter water, with frequently a smell of sulphuretted hydrogen. There is little forage or fuel. It is the shortest road from the sea to the *oasis*, and is only 146½ miles long. For the first 20 miles the road lies through sandhills; at Akhcha-Kuima it crosses spurs of the Little Balkhans, and then traverses some difficult ravines. After that it is level.

XIII.—The road through the Akhál-Tekke *Oasis* begins at Kizil-Arvat, and follows the foot of the Kopet-Dágh to the last settlement, Gavars, for 161½ miles through the fruitful fields of the *oasis*.

The road goes from village to village, crossing streams which flow from the hills. It is practicable for wheeled traffic, and presents no difficulties whatever.

XIV.—The routes to Marv. The existence of these routes was formerly only supposed, as, up to the time of Skobelev's Expedition, Marv itself was only known by name; and only one European, Lieutenant Burnes, had in 1832 succeeded in visiting it from Sarakhs and passing on to Chahárjui. Last year (1882) the Marv *Oasis* was visited by Lieutenant Alikhánoff, who went from Askhábád to Marv with Konshin's caravan; and by Lieutenant Naziroff, of the 1st Turkistán Rifle Battalion, who reached it from Mashad by the Muzderan Pass, and from Marv went to Dih-i-Nau, on the Amu-Daria.

On his forward march Lieutenant Alikhánoff marched from Askhábád by Gavars and Lutfábád to Kaakhka by the so-called Atak. From that place to Kari-Bent on the Tajand is a waterless stretch of 50½ miles, over a country in places cut up by salt-hollows and covered with quantities of fuel and forage. From Kari-Bent to Kaushid-Khán-Kala is 90½ miles, of which 66½ are through a wooded district, which is nearly impenetrable in places. On this road there are wells only in two places, and the water in them is bad. Sands extend for 16 miles only; all the rest is a clay plain, with a few unimportant salt-hollows. The total length of this road from Askhábád by Kaakhka is 222 miles. It is the best route from Akhál-Tekke.

On the return march, the caravan went by the Lake of Alamán-Chungul to Gávárs. This road has one waterless stretch of 75½ miles, and so difficult, that at certain times of the year even single Turkumán horsemen only venture to cross it in case of the most urgent necessity. The length of this road from Askhábád to Kaushid-Khán-Kala is 235½ miles.

The route from Marv (Kaushid-Khán-Kala) by Sairáb and Adil to the village of Dih-i-Nau on the Amu-Daria was traversed by Lieutenant Naziroff in 1882, and is 159 miles long. There are wells in two places; but in case of necessity they can be dug in three other places in the sands where there are funnel-shaped hollows. There is abundance of fuel along the whole road. Forage is scarce, and is not met with for some marches. In some places there are sandhills 56 to 84 feet high, presenting serious difficulties to the movement of artillery. The most favourable time for the passage of a considerable force would be winter or early spring, as at this time, besides well water, there would be pools of rain and snow water in hollows.*

* *Road Report of Lieutenant Naziroff*, compiled between 19th (31st) May and 19th June (1st July) 1882.—*Author*.

According to enquiries made by Captain Bikoff, of the 3rd West Siberian Line Battalion, in 1879, there are several roads from the Amu-Daria to Marv. On one of these* the troops of Muhammad-Amin, Khán of Khiva, advanced for the punishment of Marv and the sack of Sarakhs. This shows that here there are some roads comparatively better than others, as is general throughout the desert.

The distance from the Amu-Daria (Chahárjui, Burdálík, Kabakli) to the Murgháb is between 150 and 240 miles. On the road from Chahárjui is the remarkable hollow of Rapatak, rich in springs of fresh water, forage, and even woods of *saksaul*. A hollow of the same kind called Takhti lies on the road from Kabakli.

A more detailed description of all these routes is given in the Appendices to this work, in which all wells are noted, and the marches described, so far as they have been traversed in our reconnaissances and campaigns.

The country we have described is inhabited by Kirghiz and Turkumáns.

The former live in Mangishlák, Buzáchi, and on the Ust-Yurt, rarely crossing to the south of the Chink. The Turkumáns occupy all the rest of the Trans-Caspian territory, and, besides, a tribe of about 4,000 *kibitkas*† nomadize in Mangishlák, on the sea-coast from Alexandrovsk to the Kára-Bughaz bay.

The first Russian settlement on the east shore of the Caspian was founded in 1834, when, by order of the Emperor Nicholas I., the Fort of Novo-Alexandrovsk was built on the Gulf of Kaidak. But it was soon abandoned, and instead of it was erected, on the western extremity of Mangishlák, the Fort of Novo-Petrovsk, soon re-named Fort Alexandrovsk. At present this fort forms a small military town, in which is concentrated the administration of the Mangishlák district. North of the fort and $3\frac{1}{2}$ miles from the sea-coast is a small village of fishermen, called Nicholas Station.

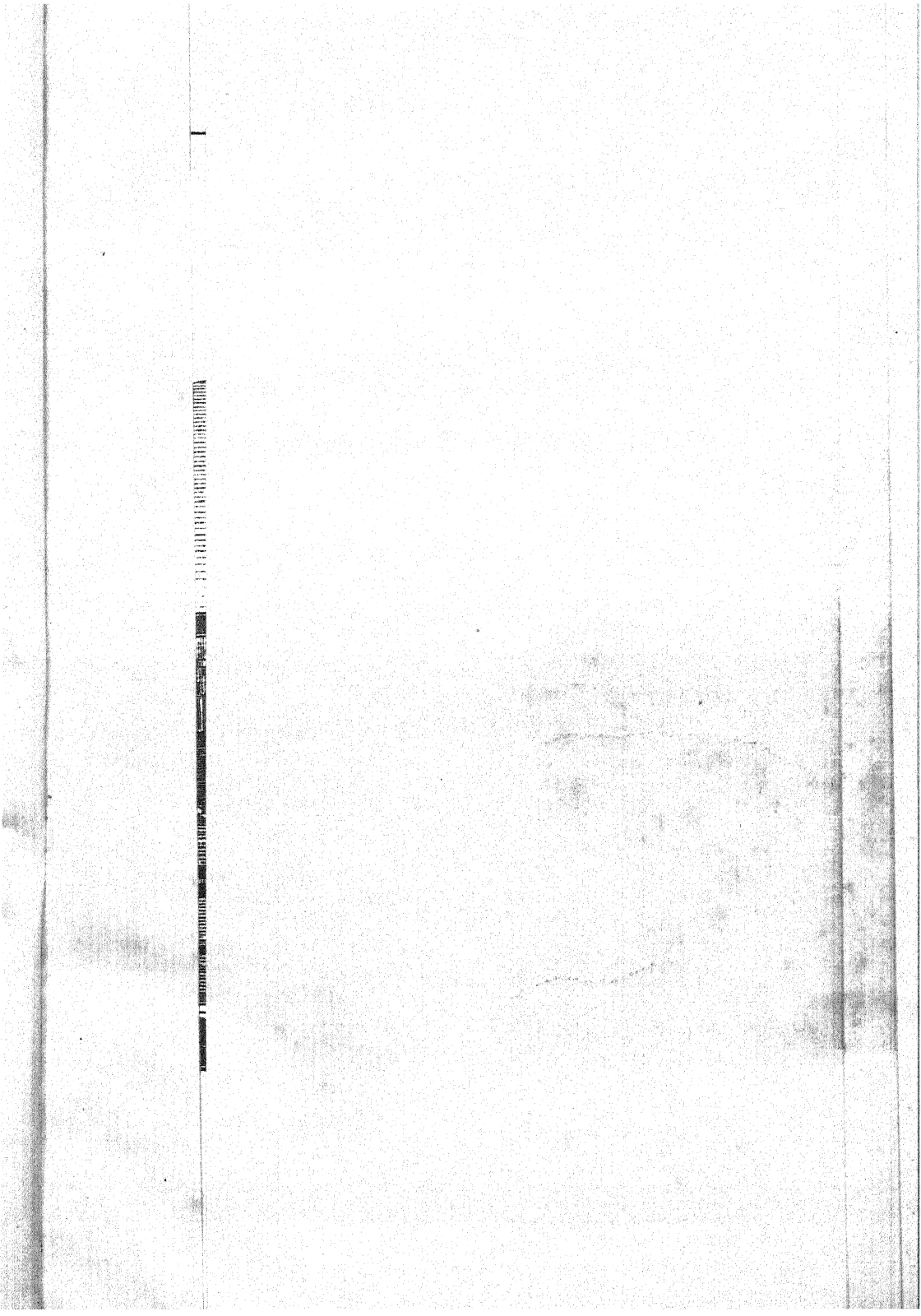
Up to 1869 we had no other settlement on that unfriendly shore, although since 1858 there had been a talk of the construction of a port on the north side of Krásnovodsk Bay. For ten years no action was taken, but on the 5th (17th) November 1869 there was founded Fort Krásnovodsk. Now Krásnovodsk is filled with houses of the European type, and looks like a small but spacious and airy town; it forms the principal anchorage for ships, and is the port of debarkation of all arriving on the eastern shore of the Caspian.

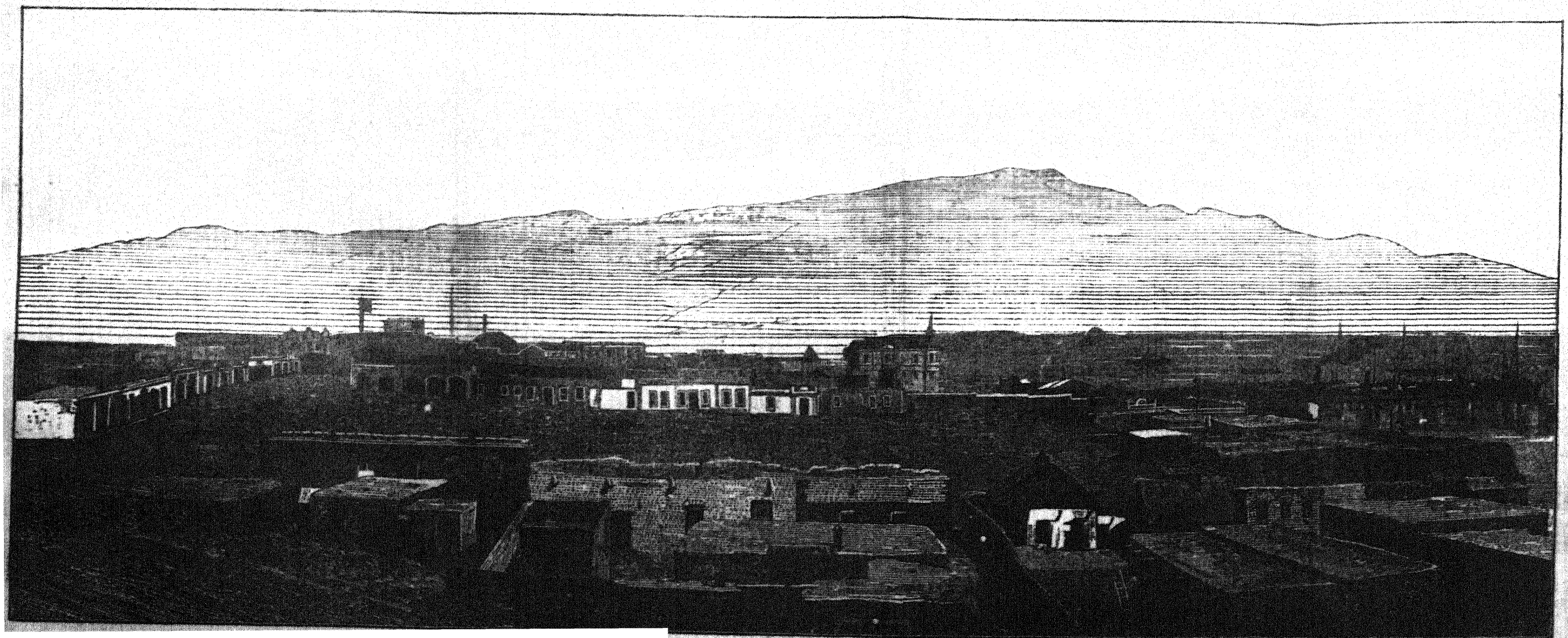
After Krásnovodsk was occupied, and while reconnaissances were being carried on in Turkumania, Colonel Stolaitoff occupied posts at Michael's Bay, Mulla-Kári, and Tách-Arvat-Kala. By the occupation of the latter place, Colonel Stolaitoff thought that, besides having a post 100 miles from Krásnovodsk with good spring water, where part of his small force could be stationed in a healthy position, important commercial and political advantages would be gained, as will be explained later on.

In 1871, Chikishliar was occupied for the first time, as the nearest point to the Persian frontier and the Atrak, on which the Yamúts nomadize. Since then it has been abandoned and re-occupied several times, but in 1878 was

* From Daya-Khatin (on the Amu) by Takhti, Yár-Khwája, and Sairáb.—*Author*.

† The Chief of the Mangishlák Administration estimates 411 *kibitkas*. Under his jurisdiction are also 400 Turkumán families residing by permission in the Government of Astrakhan. These 400 families were transported 5 years ago from Astrakhan to Mangishlák, but returned again, as they could not get their living on the east coast of the Caspian. At the beginning of the 19th century the Turkumáns occupied the whole of Mangishlák and Buzáchi; but the Kirghiz, with the help of the Khivans, drove them out, and in 1847, after the capture of Tube-Karagán, taking advantage of our inaction, they drove them beyond Kindarli Bay.—*Author*.





KRASNOVODSK.

occupied and held. As an anchorage, Chikishliar has no advantages, because its wells are very bad and its shore so flat that, ships cannot approach within $3\frac{1}{2}$ miles, whilst its proximity to the damp valley of the Gurgán causes malignant fevers, especially during the winds blowing from the Bay of Hassan-Kuli. The water-supply of Chikishliar is not fitted for troops; and its grey, sandy surroundings, devoid of all beauty, render a stay here very unpleasant.

In a military sense, Chikishliar is of the highest importance, as the starting-point on the best road up the Atrak to the *Oasis* of Akhál-Tekke.

The most southern Russian settlement on the east shore of the Caspian is the Island of Ashur-Ada, not far from the mouth of the Gurgán, and on which is the Russian naval station of Astrábád.* By the treaty of Turkumánchi, Russia acquired the exclusive right of having ships of war and flying a naval flag on the Caspian, and took upon herself to suppress piracy. At the end of 1841 the Persian Government expressed their intention, through the Russian Embassy at Teherán, of forming a port on the island of Cheleken, and asked the consent and co-operation of the Russian Government. The proposal was declined; but to suppress the Turkumán piracy in the south-east angle of the Caspian, a cruiser service was organized. Soon, however, the want of a naval station in these waters showed itself, as the distance prevented Russian steamers from going for stores, and especially for coal, to Petrovsk or Astrakhan, and the station of Ashur-Ada was established. The Turkumáns, not only of the coast district, but also those nomadizing on the Atrak, very soon submitted to its commander.

The small settlement at Ashur-Ada, which at first had a purely naval value, soon became of importance to the Government of the Turkumán steppes and the settlements between the Atrak and Gurgán, and by the force of circumstances the commander of the port attained great powers. All this happened in the natural course of events; but it was of the greatest importance for the suppression of piracy. All boats engaged in sea-trade had to pay a certain tax, for which they received tickets; and to prevent pirates from evading this law, a Khán (Nur-Geldi) was chosen out of the local population, who was given an allowance of 360 *roubles* a year from the special sums at the disposal of the commandant, and who had the right of demanding 3 *roubles*† for every ticket issued. In case of pillage, the Khán had to make good the losses, and hand the robbers over to justice. The Khán was chosen by the commandant of the station; and as the former valued his pay and position very highly, the commandant held a very high place in the estimation of the Turkumáns; and this caused them to seek protection and redress of wrongs from him rather than from the Governor of Astrábád.

The Kirghiz and Uzbaks, who inhabit Khiva and Bukhára, are peoples of Mongol-Tartar extraction. On our advance into Central Asia, they were the first to make their submission to us; and at the time of our campaigns in

* So in original.—*J. M. G.*

† In 1874 all the Turkumáns north of the Atrak were freed from this tax, as dwellers in our territory; and it was only maintained for their brethren living to the south of that river. This produced among the latter a good deal of discontent; and in February 1880, the Commandant of the Astrábád Naval Station informed our representative at Teherán that he considered it necessary to reduce by half the tax on Turkumán boats belonging to Persian subjects. He also pointed out at the same time that piracy had almost disappeared, and that the Turkumáns of the coast districts, who were not exclusively dependent on Persia, rendered good service to the garrison of Chikishliar by bringing firewood for them from the Persian coast. The Ambassador recognized the justice of the measure, and the tax on tickets was reduced by half.—(*Despatch of Ambassador Zinóvieff to the Minister of Foreign Affairs, No. 35, dated 7th (19th) April 1880.*)—*Author.*

Turkumania, the Kirghiz of the Great, Middle, and Little Hordes had long before acknowledged the unconditional sovereignty of Russia, not even excepting the Adaeffs, who nomadize between the Emba and the Mangishlák shore of the Caspian Sea. When Mangishlák was in 1870 transferred from the Government of Orenburg to that of the Caucasus, there was a rebellion among the Adaeffs, ending in the tragic death of the Governor of Mangishlák, Colonel Rukin. The rebellion was, however, soon over, and the Adaeffs recognized our power, and in our campaigns and reconnaissances in Trans-Caspia have furnished camels, guides, and mule-carriers. General Lomakin even formed a Kirghiz militia, but General Skobeleff disbanded it, and made the militiamen "*Jigits*" (scouts), thinking that it was a wrong thing to create in them a spirit of military equality. In the late expedition the Kirghiz made very good guides, and were to be preferred to Turkumáns, as they were more devoted to us and more honourable in fulfilling their obligations.

In 1873, during the Khivan Expedition, there was a characteristic example of their sense of duty. A *Jigit* sent during the great heat of July from Kindarli to Khiva strayed and lost his way among the sandhills. Two of his sons started to look for him, but found only his dead horse, from which he probably had drunk the blood, and a stick stuck in the sand showing where he had hidden the mail bag.

The Kirghiz are also excellent camel-drivers, and seem to be on better terms with their animals than other nomads.

In dress they are distinguished by their hat and a special coat of blouse. They and their horses are small, but very hardy. Their *yurtas* and *yulameikas* are more sharply-pointed than are Tekke *kibikas*, but they are considerably smaller than the latter. The Tekkes neither enter into marriage relations with the Kirghiz nor with the Uzbaks, and think these races beneath them through inferiority of blood, while the Kirghiz willingly intermarry with the Uzbaks. In ordinary family life, however, in and the ceremonials resulting from a common religion, there is little difference between the Turkumán and the Kirghiz, especially those clans of Turkumáns who live on the Amu-Daria in the Khánate of Khiva.* The Kirghiz are nomads by choice; and it is only in the last few years that some of them have begun to settle in Mangishlák and Buzáchi, where some have raised small crops of wheat, barley, maize, and *jugára* (*sorghum*). In 1876 there were 1,485 acres thus cultivated round wells and springs. The right of agriculture is expressed in Kirghiz by a declaration that a well with its appurtenances belongs to a certain family or tribe, and no one thinks of contesting this right.† With this let us conclude this short notice of the Kirghiz and turn to the Turkumáns.

The Turkumáns occupy 10,000 square miles of country between the Khánates of Khiva and Bukhára, Afghán-Turkistán, the Herát district, Khorássán, and the Astrábád province. The greater number of them live near those limits, as there are better means of supporting life. A smaller number live on the Lower Murgháb, in the Marv Oasis.

The geographical distribution of this race has caused its gradual subjection by its neighbours. At present three-fourths of the whole race are dependent upon some other State, and only the Marv Oasis has preserved its independence.

The Turkumáns living to the south-west of Khiva acknowledge the Khán of that country, and those on the left bank of the Amu from Ist-Poosa to

* I. Ibráhimoff : *Foyenné Sbornik*, No. 2 of 1874.—*Author*.

† Lomakin : *The Mangishlák Peninsula*.—*Author*.

Vahlaevsk St.

Ft. Alexandro

ETHIOPIA

MANIA











GRODEKOFF.

100 Miles.

100

200 Miles

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Shadezbu	Kurds		Yamuts 150,000 souls
Zafraula			Emralli 50,000
Salat	Kurds		Sakars 15,000
Daregaz			Tekke 300,000
parts are lated.			Ersari 150,000
		Goklans 31,000	
		Alili 250,000(?)	
		Chadars 86,000	
		Sariks 65,000.	
Zuli			Salors 12,500.

Burdalik

Different small tribes living
in various places 60,000

Total 1,170,000

hak

Kerki

of Khwaja Salen

Kelif

Patta Kassar

Akhchao

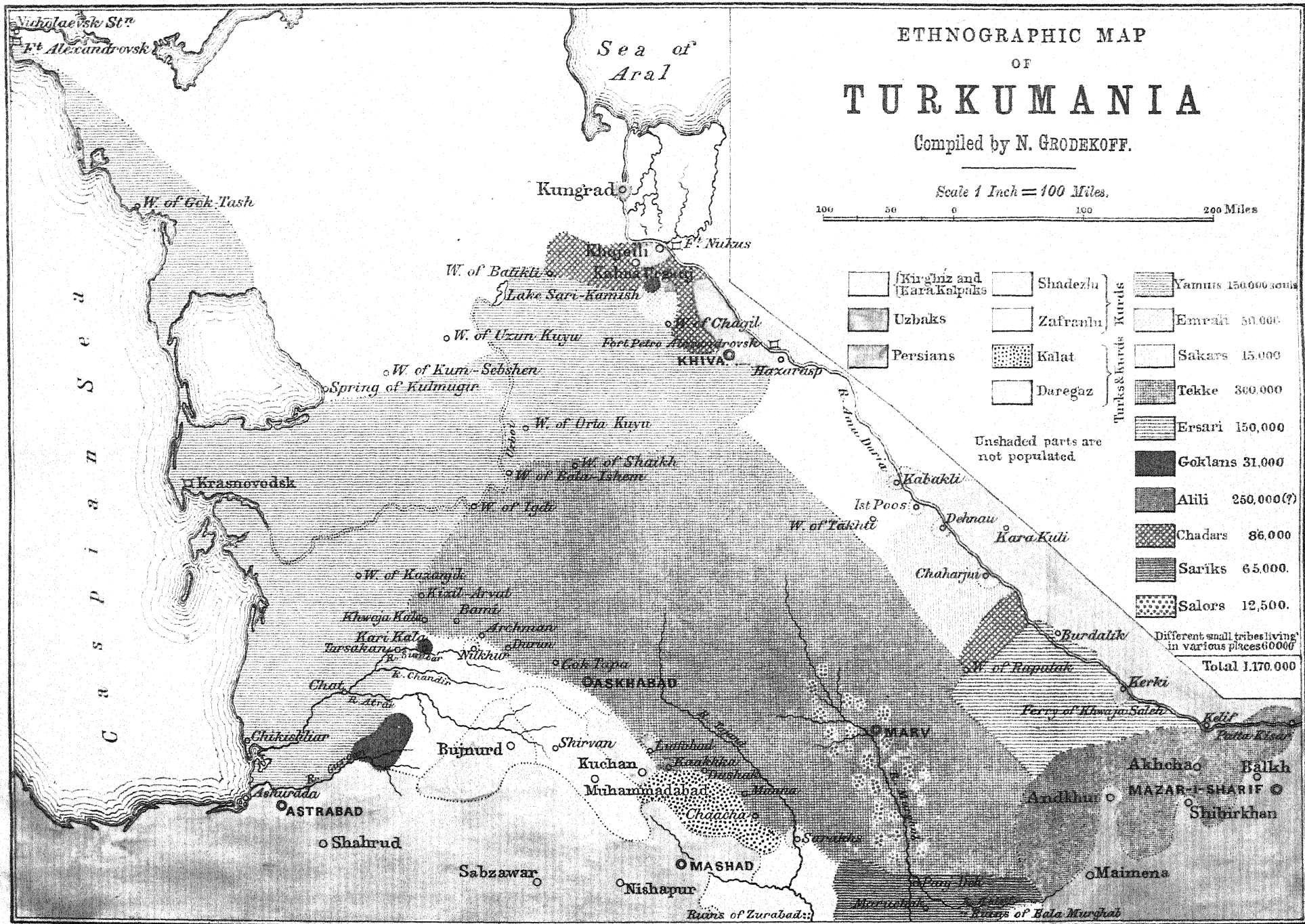
Balkh

MAZAR-I-SHARIF

Shubirkhan

Maimena

la Mirghab



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the frontier of Afghánistán are under the Amir of Bukhára. The Yamúts who live between the Atrak and the Gurgán and the Gokláns are under Persian rule, whilst the Akhál-Tekkes have submitted to Russia. The Turkumáns nomadizing near the frontiers of Afghán-Turkistán and Herát, thanks to the continual disorders in Afghánistán, have preserved a semi-independence, and finally Marv is independent.

As, therefore, Khiva and Bukhára are under the political sovereignty of Russia, all the Turkumán subjects of those countries may be considered as under our rule. This view is strengthened by the fact that the Khivan Turkumáns are only forced to acknowledge the power of the Khán over their pasture grounds by the presence of our garrisons, and that the Bukháran Turkumáns, especially the Arsáris, are constantly asking to be taken under direct Russian protection. We may consider then that one-half of the Turkumáns acknowledge the authority of Russia.

Before we proceed to consider the above groups in detail, we must remark that the works published by several authors on the ethnography of Turkumania are excessively contradictory and confusing, especially as to numbers. A critical reduction of all the materials to one common system, so as to approximate to the truth, is hardly possible; therefore *volens volens* we must give the contradictory calculations of different authors.

Our sources of information are articles by I. Ibráhimoff and A. Kuropátkin in the *Foennyi Sbornik*, 1874 and 1879, Petrúsevitch's Monograph in the *Journal of the Geographical Society*; Captain Bikoff's *The Tekkes of Marv* and *The Turkumáns of the Yamút Tribe*, the latter in the *Foennyi Sbornik* No. 1 of 1872; the correspondence of Alikhánoff-Avanski, printed in the *Moscow Gazette* of 1882, under the title of '*Russians at Marv*'; Venyukoff's *Attempt at a description of the Russian Frontiers in Asia*; O'Donovan's *The Marv Oasis: travels and adventures east of the Caspian during the years 1879-80-81, including five months' residence among the Tekkes of Marv*; Marvin's *Marv; the Queen of the World*; and Lieutenant-Colonel Spolatsbog's collection of information. The latter, made during the Akhál-Tekke Expedition, contains most valuable materials.

In Khiva live the following tribes of Turkumáns:—

- (1) Yamúts, who are divided into two clans,—the Bairám-Sháli, living on the borders of Khiva, and the Kára-Chukha, nomadizing now in Persian (between the Atrak and Gurgán) and now in Russian possessions. Ibráhimoff gives no figures showing the numbers of the Bairám-Shali clan, but Petrúsevitch fixes its strength at from 15,000 to 20,000 *kibitkas*.
- (2) Chádars,—numbering 17,000 *kibitkas*.
- (3) Emrali,—10,000 *kibitkas*.*
- (4) Ata,—9,000 *kibitkas*.
- (5) Alili,—1,000 *kibitkas*.

There are also six smaller tribes, together numbering 1,500 *kibitkas*.†

All these tribes are occupied in agriculture and cattle-rearing, and have their winter quarters in the south and south-west parts of the Khánate,—the

* The Kára-Dáshli is one of the clans of the Emrali, while Ibráhimoff counts them as an independent tribe. Thus he counts the Kára-Dáshli twice over,—among the Emrali, and by themselves.—*Author*.

† Ibráhimoff.—Of these 6, the Gokláns form a separate tribe; the others are branches of other tribes. To them belong the Arbáchis, 200 *kibitkas*. Venyukoff reckons their number at 2,000 *kibitkas*.—*Author*.

Yamúts, Gókláns, and Alili between Kázavat and Kuhna-Urganj; the Emrali round Iliáli; the Chadars from Khwája-Ili (Khodjeili) and Kuhna-Urganj to Kipehák, Tásh-Hauz and Kázavat; and the Ata on the right bank of the Amu, round Shurá-Khána. Their summer quarters extend as far as the Ust-Yurt, and southward to about the wells of Igdi.

According to Ibráhimoff, the total number of Khivan Turkumáns is 70,000 *kibitkas*; but, taking the numbers of Yamúts according to Petrúsevitch* and cutting out the Kára-Dáshli, we find the number to be 50,000 *kibitkas*, or 250,000 souls, as was assumed by General Kaufmann in estimating the contribution from the Turkumáns in 1873.†

The Khivan Turkumáns have for a long time played in Khiva the rôle of Prætorians or Janissaries, and always took the most active part in the war between Khiva and Bukhára; and usually the Khán of Khiva, who enjoyed the support of the Turkumáns, had the advantage over his enemies. Considering that they had a right to play the leading part in the service of the Khán of Khiva, the Turkumáns soon began to take part in internal troubles and feuds. They elected and deposed Kháns, and acted as the rulers of the Khánate. Up to 1873 the Turkumáns held a privileged position; they furnished cavalry for the service of the Khán, and seldom paid the land tax imposed upon them, hardly even helping in the cleaning out of the canals. In short, the Turkumáns were a military caste, and considered themselves lords of the land. If the Khán indulged them, he might count on his personal safety; if not, they would burst into the town and force him to concede to their wishes,—otherwise they threatened him with death. Kutlu-Murád-Khán was thus suffocated in his own palace.

When the Russians appeared on the Amu, the relations of the Turkumáns to Khiva changed materially. The Khán pointed out to General Kaufmann that the treaty of peace concluded with Russia could only be fulfilled by him when he was master of his subjects, and that to this end the Turkumáns must be subjugated. Kaufmann imposed a contribution on them and sent troops to their lands, and the Turkumáns made peace. But when the Russians had evacuated the left bank of the Amu, the Turkumáns, discontented with the new order of things by which they were placed on a level with the rest of the population, rose several times. Operations conducted against their nomad camps by our troops in 1874 and 1875 strengthened the power of the Khán to such an extent, that he decided personally to visit the pasture lands of the nomads and collect the taxes.

The Turkumáns nomadizing on both banks of the Amu-Daria from Ist-Poosa to Kwája-Saleh belong to Bukhára. Here live the Sakars, 3,000 *kibitkas*; Chádars, 200 *kibitkas*; and the Arsári, whose numbers Petrúsevitch places at 30,000 *kibitkas*.‡ This calculation closely approximates to that made by Captain Arendarenko, who lived a long time in Bukhára, and who estimated the Arsári at 35,000 *kibitkas*.§

The Bukháran Turkumáns pay taxes.

* Petrúsevitch was employed in Khiva a long time, and his figures are probably more accurate than those of Ibráhimoff.—*Author*.

† There are 50,000 *kibitkas* and 300,000 souls, i.e., 6 to a *kibitka*, and not 5, as was calculated.—*Author*.

‡ Petrúsevitch, page 3: *The Turkumáns between the old bed of the Amu-Daria and the Northern Frontier of Persia*.—*Author*.

§ Venyukoff reckons the Arsari at 66,000 *kibitkas* and Ibráhimoff at 60,000.—*Author*.

The second great group of Turkumáns is that of the Gurgán and Atrak, part of whose members live all the year, or part of it only, in Persian territory,—Yamúts of the Kára-Chukha clan and Gokláns.

The Yamúts of the Kára-Chukha clan are divided into two sects,—the Choni (Ak-Atabai) and Sharif (Jáfarbai).

Petrúsevitch places the numbers of the Jáfarbai at 8,000 *kibítkas*, of which 4,500 are nomad and 3,500 settled; and of the Atabai at 7,000 (4,500 nomad and 2,500 settled). Thus the total number of Yamúts of the Kára-Chukha clan is 15,000 *kibítkas*, or 75,000 souls. Of these, 9,000 *kibítkas* are for nine months of the year in summer quarters on the right bank of the Atrak, 1,000 *kibítkas* are settled in *auls* north of that river, and 5,000 *kibítkas* never cross it, but remain in Persian territory.*

The fields of the Yamúts are on the Atrak, but principally on the Gurgán and about Khwája-Nafas. These begin a short distance from the sea-coast, and extend inland as far nearly as Akh-Kala. The Jáfarbai produce yearly 7,360 cwt. of wheat and 384 cwt. of rice. In good years their crops yield twenty-fold, and even in bad years five-fold. The grain produced suffices not only for the nomads, but also for the settlers.†

The territory between the Atrak and Gurgán forms a clayey steppe, good only for cattle-rearing.

The Yamúts of the coast district have no fewer than 500 boats of different dimensions; and of these, 350 bring in their owner an income of not less than 70 *roubles* a year. The boatmen are engaged in the fisheries and in the transport of naphtha and salt from Cheleken to Persian ports. Till energetic measures were taken at the Astrábád naval station, the larger boats were also pirate ships, which preyed not only upon Persian craft, but also on the coast towns and villages.

The Gokláns live to the east of the Yamúts, and lead a settled life. They are under the Sháh of Persia, and pay to him a yearly tax of 6,000 *tomans* (18,000 *roubles*).

Estimates of their numbers are very contradictory. The former Russian Consul at Astrábád, Bakulin, estimates them at 4,000 *kibítkas*. Baron Bode in 1852 placed them at 2,500; while Blaramberg, who was in Persia from 1837 to 1840, thought there were 9,000 families. Even the Governor of the district of Bujnurd, whose interests are to diminish the official numbers of Turkumáns paying tribute,‡ admits to 1,803 *kibítkas*. According to the amount of the actual tribute, which was quadrupled by the machinations of the Governor of Bujnurd from 6,000 to 24,000 *tomans*, Petrúsevitch is inclined to estimate the total number of *kibítkas* at 6,000; and this figure coincides with that given by our agent, Yakhya-Bek-Tairoff, who resided some time in Bujnurd,§ and who had in his transactions every means of estimating their number correctly.

“Of all the Turkumán tribes, the Gokláns are the best off,” writes Baron Bode; and certainly their territory between the Kopet-Dágh and the Elburz Range is one of the most charming spots of Northern Persia. There is abundance of water, of arable ground, of pasture land, and of wood. They have a still finer region on the Gurgán, where the position of their fields along the river, sheltered by high hills on the north and north-east and open to the

* Petrúsevitch, *ibid*, p. 10.—*Author*.

† There are no data as to the crops of the Atabai.—*Author*.

‡ The Gokláns are under his administration.—*Author*.

§ From 1879 to 1881.—*Author*.

sea on the west, secures them luxuriant crops, which are further ensured by frequent showers of rain. Rice, cotton, Greek nuts, peach, lemon, and orange trees, and sugarcane, are cultivated.

According to Baron Bode, the land of the Gokláns is the ancient Girkania or Verkana, in the centre of which stood the Dih-i-Stán, or 'happy villages,' captured by Alexander of Macedon during his campaign in Persia.

All the country between Kári-Kala, the middle course of the Atrak, the passes across the Kopet-Dágh, and the frontier villages of Bujnurd, Pish-Kala, and Katlish, is uninhabited, and is a wild hilly region in which in many places may be seen the ruins of villages. There are now only two settlements in it,—Kári-Kala and Nukhur. The rest have been destroyed by the Tekkes, who, according to Petrúsevitch, were bitter enemies of all who were neither of their own race nor related to them.

Before proceeding to consider the Turkumáns proper, we think it necessary to say a few words about this village of Kári-Kala, because there was a time when that point occupied the special attention of the Persian Government and of English travellers, and about which there was much correspondence between the allied powers.

The village of Kári-Kala is at the foot of the Kopet-Dágh on its southern slope, bars the defile of the Sumbár, and forms a place difficult of access and easily defended. It is 66 miles from the nearest Goklán village, and 93 from the nearest of the *Viláyet* of Bujnurd; therefore its inhabitants, left to themselves, became friendly with the Tekkes, who carried out raids by the aid of the inhabitants of Kári-Kala. On the strength of this, Kári-Kala was several times the object of Persian military operations; it became the subject of diplomatic notes between the Russian and Persian Cabinets, and thus gained a certain geographical and historical notoriety.

We first find mention of Kári-Kala in 1836, when the Persian troops under Prince Feriduínchi-Mirza were sent against the Turkumáns settled near this fort. On their approach, the Turkumáns abandoned the village and retired to the hills, whence it was impossible to dislodge them, and the Prince returned with no results to show.

When the present Sháh, Nasr-ud-Din, ascended the throne, an insurrection occurred in Khurássán, organized by Sálár, who desired to declare himself independent of Persia. This insurrection was soon crushed, and Sálár executed; but his son-in-law, Jáfar-Kuli-Khán, Governor of Bujnurd, took refuge in Kári-Kala, where he received pardon from Sháh Nasr-ud-Din.

Some years afterwards Jáfar-Kuli became Governor-General of Astrábad, and, thanks to his influence among the Turkumáns, he again reduced the Gokláns and Yamúts to subjection.

In 1856, at the time of the insurrection in Khiva, more than 4,000 *kibítkas* of Yamúts and Gokláns quitted the Khánate in which they had paid tribute, and migrated to Persia. The settlers agreed to recognize the authority of the Sháh, provided they were permitted to reside near Kári-Kala. Jáfar-Kuli-Khán saw no objections to this being conceded; but the Prime Minister, Mirza-Aga Khán, who was intriguing against him, made the Sháh believe that the proximity of these Turkumáns would be a source of trouble for Persia, and that there was some ulterior object in the proposals of the Governor-General of Astrábad. The Sháh then ordered the latter to drive them away from Kári-Kala and assign some other place as their domicile. In 1857 Jáfar-Kuli Khán took the field and besieged Kári-Kala, where he was received with such a determined resistance, that he had to retire

with the loss of his artillery, whilst his army nearly perished for want of supplies.

The attempt was renewed in 1858, when the Governor-General of Astrábad led 10,000 troops against Kári-Kala. Not being able to resist such a force, the Turkumáns retired, partly into Khiva, and partly into the Akhál-Tekke *Oasis*. Jáfar-Kuli-Khán, having captured Kári-Kala, razed it to the ground, and then returned to Astrábad.

These events increased the hostility of the Turkumáns against the Persians; and soon the latter had to pay dearly for their victory. Kári-Kala fell into the power of the Tekkes, who, after the departure of the Persian army, began to make constant raids into the province of Astrábad, and even against the Yamút and Goklán subjects of Persia, especially the latter. In consequence of these, the Persian Government was forced to undertake an expedition in 1869 under Haidar-Kuli-Khán, *Ilkháni* of Bujnurd, and brother of Jáfar-Kuli-Khán.

Petrúsevitch gives the following account of the storming of the fortress:—

The Persian commander moved on Kári-Kala with guns, cavalry, regular infantry, and Kurdish militia from the provinces of Kuchán and Bujnurd. His artillery made no impression on the fortress, so he resolved to storm it. Several attacks had been repulsed, and all hope of capturing Kári-Kala given up, when a woman of Bujnurd, who was a prisoner in the besieged fort, mounting on the wall, began to call out to the besiegers. She called them poltroons, who forgot that their wives, brothers, and children were languishing in Kári-Kala, and declared she would curse the whole Kurdish tribe if they retired with infamy from before the walls. The cry of the prisoners infuriated all, and the commander resolved to try one more attack, and sent the Bujnurd cavalry against one of the towers, which stood in advance, and was a great obstacle to a successful storm. The attack was suddenly made, and the fort was quickly captured; but so great was the fury of the besieged, that even the women refused to be taken prisoners and sought for death. Many of them asked their husbands to kill them rather than let them see defeat.*

After this defeat, the whole population was transported to Bujnurd, and Kári-Kala was given over to the Gokláns of the Gai clan, who were better disposed towards the Persian Government than the others. They, however, on settling in Kári-Kala, also began to plunder caravans.

All this history proves that Kári-Kala was a good place for the headquarters of brigands, and that Persia was powerless to protect herself against the Turkumáns settled here; therefore there was some idea of annexing Kári-Kala to Russia, especially as, by the declaration of 1869, Russia recognized the right of Persia to the left bank only of the Atrak, and Kári-Kala lies some distance from its northern bank.

At the time of the Akhál-Tekke Expedition in 1880, our troops several times visited Kári-Kala, which had been evacuated by the Gokláns, in consequence of the attacks made on it by the Tekkes to punish the former for the aid given to us in 1879. When the Persian frontier question was raised, General Skobeleff was of opinion that Kári-Kala might be handed over to Persia without any disadvantage to us; but still it fell to our share.

We have thought it necessary to go into the history of Kári-Kala thus in detail, as it was one of the principal forts to which, according to the advice of

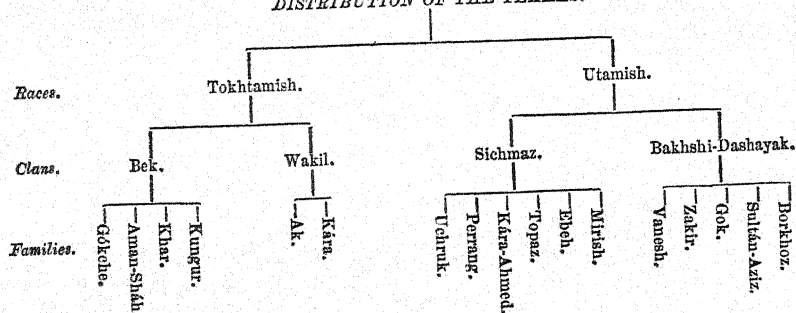
* Petrúsevitch, page 63.—*Author*.

Captain Napier, who visited it in 1878, the Cabinet of St. James attached special importance—an importance it never had in our eyes.

Returning now to our account of the Turkumáns, we must examine in detail those tribes who, up to the time of our advance into the heart of the country, were the real masters and robbers of the desert.

In the Akhál and Marv *Oases*, and all over the desert from the Uzboi near Igdi to the frontiers of the Khivan *Oasis*, lives the numerous tribe of Tekkes, which means “goats”:

DISTRIBUTION OF THE TEKKEs.



They are divided into two races,—the Tokhtamish and Utamish.*

The Utamish are, in turn, divided into two clans,—the Sichmaz and the Bakhshi-Dashayak; and the Tokhtamish into the Bek and Wakil.†

These clans are, in turn, divided into families; but the Tekkes pay little attention to the division into families, considering the races only of importance.

We find the most detailed information as to the Akhál-Tekkes in Lieutenant-Colonel Spolatbog's notes on the population of the *Oasis* from the beginning of January to June 1881.

He estimates the total number of Tekkes before their defeat in 1881 at 18,000 *kibitkas* of settled population, divided as follows:—

Tokhtamish Bek:—					<i>Kibitkas.</i>
Gávars	...	...	...	...	100
Bágir	...	...	...	...	280
Gokcha	...	...	...	...	400
Kipchák	...	...	...	...	380
Korjoff	...	...	...	...	1,000
Kialyájar	...	...	...	...	2,000
Bámi	...	...	...	...	300
Keshi	...	...	...	...	200
Daran	...	...	...	...	300
Annau	...	...	...	...	90
Total					5,050

* See genealogical table.—*Author.*

† Alikhanoff, in his *The Marv Oasis and the roads leading to it*, mentions a subdivision of the Marv-Tekkes by canals or administrative divisions on which the taxation is based.—*Author.*

Kibitkas.

Tokhtamish-Wakil:—

Askhabád	...	...	...	1,000
Keshi	...	...	...	200
Izgent	...	...	...	400
Báb-Aráb	...	...	...	100
Tulki-Yábi	...	...	...	300
Kánjik-Yábi	...	...	...	400
Bukru	...	...	...	100
Kakhshál	...	...	...	500
Megin	...	...	...	400
Káriz and Kelete	...	...	...	300
Akh-Tapa	...	...	...	500
Karagán	...	...	...	560
Kizil-Arvat	...	...	...	1,000
Durun	...	...	...	300
Annau	...	...	...	90
Total				6,150

Utamish-Sichmaz:—

Annau	...	...	...	90
Gok-Tapa	...	...	...	2 000
Yarája	...	...	...	600
Burma	...	...	...	800
Total				3,490

Utamish-Bakhshi-Dashayak:—

Miráva	...	...	...	110
Gerrik-Kala	...	...	...	570
Yásman-Salik	...	...	...	600
Buzmein	...	...	...	1,000
Begerden	...	...	...	400
Burcha*	...	...	...	180
Suncha	...	...	...	60
Archman	...	...	...	300
Annau	...	...	...	90
Total				3,310

To this number (18,000) of *kibitkas* of settled population, Spolatbog adds 12,000 *kibitkas* of nomads, so that the whole population of Akhál, according

* This village is occupied principally by descendants of Arabs.—*Author.*

to his reckoning, is 30,000 *kibitkas*. While fully believing in his figures of settled population, we consider those of the nomads much too high, as our census of them after the war of 1881 only gave a total of 3,300 *kibitkas*. Thus the population of the Akhál Oasis before the war of 1880 was 21,000 *kibitkas*, or 105,000 souls.

Petrúsevitch gives the number of the Márv-Tekkes as 48,000 *kibitkas*, on the basis of the following calculation:—To water their fields, the Tekkes built a dam on the Murgháb, and raised it to a height sufficient to throw the water into 24 canals. The population of Marv on the Murgháb is divided into two equal parts, therefore the water of the river is also equally divided. The canals require repair and cleaning every year, each being attended to by those to whom it belongs, the large dam being repaired by all in common. For this latter, every 24 families sent a workman, and it has been found out for certain that 2,000 workmen were employed on this dam, making the total population of Marv 48,000 *kibitkas*.* Lieutenant Alikhánoff estimated the number of Marv-Tekkes at 36,000 *kibitkas* only; and for the whole population of the Marv Oasis, including Sáriks, Salórs, and other small tribes of Turku-máns, he gives 46,000 *kibitkas*, but without saying on what data he founds this.† Lieutenant Naziroff puts the number of Marv-Tekkes at 36,000 *kibitkas*, as Alikhánoff does, and the whole population of the oasis at 50,000 *kibitkas*.

As we have seen above, the permanent home of the Tekkes is the narrow strip of land along the Kopet-Dágh from Kizil-Arvat to Gávárs, and the fruitful plain of the Murgháb, known in the time of Diodor the Sicilian and Strabon as Marv.

The oases owe their existence to springs of water, which form the *Alpha* and *Omega* of cultivation in the desert.

The Akhál Oasis receives its water from several hill rivers and streams flowing from the northern slope of the Kopet-Dágh. This range increases considerably in height towards its south-eastern extremity; and here, therefore, the streams have a more abundant supply of water. The Tekke population is, therefore, much more dense between Gok-Tapa and Gávárs than between Gok-Tapa and Kizil-Arvat.

The total length of the oasis is 160 miles; but its breadth does not exceed 13½.

The Tekke villages are mostly surrounded by high clay walls, and form fortified[posts] placed along the rivers, sometimes singly, sometimes in couples, and even in larger groups. Of these, the following are the most important:—On the canals of Goz-Báshi are Bágir, Kári-Kala, Miráva, Gokehe, Goshi,

* N. Petrúsevitch, pages 3 and 32.—Bakulin, formerly Russian Consul at Astrábád, counted the Marv-Tekkes in the same way.—*Author*.

† In Alikhánoff's work, *The Marv Oasis and the roads leading thereto*, which we have in MS., the total population of Marv has been reduced to 32,400 *kibitkas*, of which 26,000 are shown as Tekke. He founds this on the following calculation:—A group of 6 *kibitkas* has a right to the water for 6 hours in succession, and is called "Yarim-Kalama." Four such groups or 24 families have, therefore, the right to the water for a whole day, and form an "Atlik." Each canal of the second class, called "Inche-Yab," suffices for 10 to 12 *Atliks*. If we take 11 as an average, then each *Inche-Yab* suffices for 260 *kibitkas*. There are 100 such canals in the Oasis, so the total population, with a right to land and water, numbers 26,000 *kibitkas*. The other inhabitants of the oasis, including Akhál-Tekkes, who fled hither after Gok-Tapa, hire their land and water from the ruling tribe. Alikhánoff thinks that ¼th of the whole population of Marv belongs to the *Chárvoas*. Every four *Inche-Yabs* form an "Yegun-Yab," or large canal, according to the number of which Marv is divided into 24 administrative districts, the presidents of which, together with the *Kháns* and *Aksakals*, form the *Maylis*, or Parliament.—*Author*.

‡ In the Marv Oasis, in consequence of its isolated situation and freedom from fears of raids, there are no towers and fortified points, as in Akhál. To defend the country in case of a serious attack, the large fort of Kaushid-Khán-Kala has been built on the Murgháb.—*Author*.

Salik-Kala, Kipehák, and Askhábád; on the River Kozlukh lie Yemishán, Shor-Kala, Kialyájar, Korjoff, Báb-Aráb, Gumbetli, and Izgent; on the River Firúzín-Su, the two villages of Buzmein; and, finally, on the Sekiz-Yab-lie Yangi-Kala, Dangel-Tapa, Kuhna-Gok-Tapa, and Akhál.

Akhál is noted for the dryness of its air; its rivers flow, for various reasons, a very short distance from their sources. The drying up and diminution of the stream result partly from filtration; and this is very considerable in all the hills of Persia, which are sparsely clothed with vegetation. Much silt is also carried down the valleys, so that the channel soon becomes choked and the stream forced to run underground. Another cause of the narrowness of the *oasis*, especially towards the west end, is the system of agriculture, which is purely one of irrigation requiring much water. As the water is drawn off on to the fields, the stream diminishes, and little by little vanishes into the sands.

At the beginning of the last century, the Tekkes were driven out of Mangishlák by the Kalmak Khán, Ayuka, and took refuge in the Balkhán Hills, where, in 1717, they occupied Kizil-Arvat, after expelling the Yamúts. From this they began to expand continually towards the east until they reached the River Murgháb. At first they conquered Bámi, Burma, Archman, and Gok-Tapa, where the Emrali lived,* and then Megin, occupied by Emrali, Durun, peopled by Emrali and Kurds, and Askhábád, in which lived Alili and Kurds. Later on, in our own time (1861), Annau and Gávárs, settlements of Alili and Kurds, were taken. All the tribes driven out by them were Persian subjects; but, having conquered the land, the Tekkes proclaimed themselves subjects of the Khán of Khiva, to whom they paid tribute of a camel per *aul* and gave 40 hostages as evidence of good faith. The Kháns of Khiva gave *yárlíks* (commissions) to the *Kháns* of Akhál; but when they required it, the Tekkes also sought friendship with the Persians, and sent deputations to Teherán asking for *fírman*s. They had a special regard for Nádir-Sháh, and offered him the protectorate over Akhál. During the reign of this monarch, they carried out most desperate raids on the Kurdish settlements, in revenge for the latter having driven off some of their cattle; and after each such case their Elders went before the Sháh to explain the cause of the *alamán*. On the death of Nádir-Sháh the feud with Persia burst out with great violence, and has been kept up from that day to this. The Persians were the aggressors, as they always considered that they had a right to the sovereignty of Akhál. The Governor of Khorássán, Mirza-Haidar, entered Akhál with a large army and besieged Kialyájar, where all the Tekkes had concentrated.† The siege lasted a month, and the Tekkes, by sorties at night, killed many Persians, and forced Mirza-Haidar to withdraw. Some time afterwards he once more entered Akhál and besieged Akh-Tapa, but was again driven back. These successes raised the Tekkes much in their own estimation, and they became convinced that Khorássán would fall an easy prey to them, so they continued their raids.

With the growth of the population and the development of agriculture, which caused a diminution in the water-supply, the Tekkes were forced to seek new lands to settle in; and in 1835, according to Blaramberg, 10,000 families under Oráz-Khán migrated to the river Hari-Rud, and there established the Tajand Fort or Oráz-Kala,‡ after which the whole river began to

* The Emrali moved to Khiva.—*Author*.

† The works constructed by the Persians can be seen to this day.—*Author*.

‡ At Kari-Bent.—*Author*.

be known to them under the name of Tajand-Daria, and the settlers there were called Tekke-Tajand.

The Tekkes were always robbers and brigands. While they lived only in Akhál, they used to pillage the north of Persia, *i.e.*, the provinces of Daragaz, Kuchán, and Bujnurd; but after settling on the Tajand, they enlarged the sphere of their activity towards the north-east, and began to pillage in Khorássán. In consequence of this, in 1845, Asif-ud-Daula Alayar-Khán, Governor of Khorássán, attacked the Tekkes on the Tajand, defeated them, razed their settlements to the ground, and forced the survivors to return to Akhál. Here, however, there was no room for them, and therefore Oráz-Khán and the chosen Elders appeared before Asif-ud-Daula, and asked permission to settle round Sarakhs, on the right bank of the Hari-Rud. This district was then a desert, as the Salórs, who had lived there till 1833, had, in revenge for acts of brigandage, been massacred by the Persians, and forced to retire to Yulatán on the Murgháb. Asif-ud-Daula took hostages from the Turkumáns, and permitted them to reside near Sarakhs. Prevented thus from pillaging the Persians, the exiles from Akhál directed their raids on Khiva and Bukhára, and also on the Sárik and Salór Turkumáns. But Muhammad-Amin ruled in Khiva, and he did not hesitate to punish the Tekkes and subdue them. He left a Governor in Sarakhs, with a garrison of 500 *Sarbazis*. But soon after the departure of the Khán, the Turkumáns rose, killed the Governor, massacred his troops, and again began their *alamáns*.

In 1855, Muhammad-Amin made a second attack on Sarakhs, where, after some skirmishes with the Turkumáns, he was defeated, taken prisoner, and murdered. After this the Tekkes ceased to pay tribute to Khiva, and became so daring after their victory, that they not only raided into Khiva and Bukhára, but also into Khorássán, where in 1856 Salór, son of Asif-ud-Daula, had rebelled. This rebellion was crushed by the troops of Sháh Nasr-ud-Din, and then Prince Feridun-Mirza, the Governor of Khorássán, resolved to punish the Tekkes and Sáriks who lived at Marv and had taken part in the raids on Persia. The campaign was successful; and the Persians penetrated to Marv, defeated the Turkumáns, and carried off 150 families as hostages. But the impression of this victory soon wore off, and Prince Feridun's successor, Sultán-Murád, had to advance on Sarakhs, subdue the Tekkes, and force them to fly to Marv.

Since the appearance of the Tekkes in Marv, in which, since 1790, the Sáriks had lived, fierce war had been waged between the two tribes. The Tekkes tried to drive their opponents out of the country, and the latter, finding themselves the weaker, turned to Sultán-Murád for help. Desiring to aid them, Sultán-Murád collected a large army of 18 battalions of infantry and 7,000 or 8,000 cavalry. The Tekkes* could not withstand such a force, more especially when assisted by the Sáriks, and so after some skirmishes they were forced to yield. Sultán-Murád, seduced by their presents and flattered by their speeches, left Marv without even taking hostages, and the old struggle once more broke out. The Sáriks were finally conquered, and restricted to the two districts of Yulatan and Panj-Deh, from which they, in their turn, ejected the Salórs. The Tekkes then became undisturbed rulers of Marv, built the dam on the river Murgháb above mentioned, and carried on raids, which devastated the northern provinces of Persia, and even of Afghánistán.

* At this time Kaushid-Khán ruled in Marv. He was a most energetic ruler, and died in 1878.—*Author*.

Enraged by such brigandage, the Persians in 1860 resolved to make an end of this nest of robbers. A fortress called New Sarakhs was first built by them ; and in 1861 an army of 13,000 infantry, 10,000 cavalry, and 33 guns left Sarakhs for Marv. The Persians were confident of victory, and their commander, Hamza-Mirza-Ashmadit-Daula, refusing the offer of the Tekkes to give 1,000 families as hostages, to furnish 1,000 cavalry when required, and to pay a contribution of a *zolatnik* (2·4 drams) of gold per *kibitka*, resolved to annihilate them. The Tekkes, therefore, had nothing left but to fight ; and so well did they organize their resistance, that the Persians were forced to retire. But this retreat was disastrous, as the Tekkes pursued them with such vigour and turned the retirement into a route. Only a part of the cavalry escaped, and the infantry and artillery fell into the hands of the Tekkes. The number of prisoners may be judged from this, that a short time afterwards Persian slaves were selling in the markets of Khiva and Bukhára for $7\frac{1}{2}$ *roubles*. Since that time the Persians have given up all thoughts of conquering Marv, and the Tekkes have remained quite independent.*

Marv† is the third country of plenty mentioned in the Zend-Avest, a tradition,‡ and even now it is called Sháh-i-Jahán, *i.e.*, Emperor of the World. To this day also the natives point out the ruins of Marv as those of an old Greek town. Surrounded as it is by deserts, the Marv *Oasis* is isolated from all other cultivation by a stretch of 130 to 260 miles. It is entirely artificial. The soil and vegetation are the same all over the country between the Kopet-Dágh and the frontiers of Bukhára, and any part of that extent, now completely covered with sand, could, if water were conveyed to it, be made as fruitful as the Marv *Oasis*. Everywhere the ruins of former canals are met with, and there was a time when they distributed the water to every part of the desert now surrounding Marv. Under the rule of the Persians, Marv was a flourishing and rich country ; the Murgháb was regulated by dams ; and, thanks to the excellent irrigation of the country, the proverb "a hundred seed are born from one" was fulfilled. A Persian poem of that time says : "True believers, assemble yourselves with joy and say your morning prayers in Nishapur, your midday prayers in Marv, your evening prayers in Herát, and those at midnight in Bághdád." Such was the happy condition of Marv till 1784 when the Bukháran Amir Maasum§ destroyed the dam (Band-i-Sultán), canals, and fortress, and carried the greater part of the inhabitants away in captivity to his capital. The remainder migrated to Persia, and the Sáríks occupied the *oasis* in 1790. Not being able to renew the dam of Band-i-Sultán, they confined themselves to a strip along the bank and to the valley of the Murgháb, and have built a dam of much smaller dimensions. Afterwards, under Kaushid-Khán, the Tekkes enlarged this dam, and considerably extended the limits of the cultivation. According to Alikhánoff, the Marv *Oasis* is a flat, clay plain, with sand in places. Its length and breadth are both about 40 miles, giving a total square extent of 1,600 miles.|| The Murgháb divides this into two equal parts, the north-east and the south-west, and at the point

* Petrusévitch, pp. 29 and 30.—*Author*.

† In Central Asia Marv is called Maur.—*Author*.

‡ K. Ritter's *Iran*, translated by Khánikoff, p. 59.—*Author*.

§ Petrusévitch has by mistake made the year 1787 and the Amir's name Murád.—*Author*.

|| Naziroff estimates it at from 2,100 to 2,800 square miles. According to his description, the width of the *oasis* is $53\frac{1}{2}$ miles (80 *versts*) from west to east (from Tásh-Rabát through Kaushid-Khán-Kala to the ruins of Kishmán), and its length 40 to $53\frac{1}{2}$ miles from north to south (from the dam of Kaushid-Khán to the ridge of the cultivation on the Murgháb). The length of the cultivated strip varies according to the amount of water in the Murgháb.—*Author*.

where it enters the *oasis* is built the huge dam of Kaushid-Khán,* which throws the water equally to both halves of the oasis by two large canals,—the Utamish (on the left bank of the river) and the Tokhtamish (on the right bank), leaving only a small part of water in the bed itself. Each of these canals divides into branches, which are in turn diverted into hundreds of irrigation channels, and cover the *oasis* almost uniformly with a close network of water. All the space between the canals is fenced in by mud walls and sown with crops of wheat, *jugára*, sesame, cotton, and barley, also melon beds giving a fabulous quantity of melons and water-melons, vineyards, and, lastly, a few fruit gardens. In this fruitful region lives a half-settled race in *auls* of 200 to 300 *kibitkas*. In Marv 3 or 4 *kibitkas* generally constitute a group in the middle of their fields, or the inhabitants live in towers or in open huts under the thick shade of apricot or mulberry trees. Such is the pleasing picture given of the country.

Two-thirds of the population sow wheat at an average amount of about 252·7 lbs. per *kibitka*, the remaining third about 72·2 lbs. Wheat multiplies 20 fold and *jugára* 200 or 300 fold; but the latter is only sown by one-third of the population at 36·1 lbs. per *kibitka*, by the remainder at 2·7 to 3·15 lbs. Melons and water-melons constitute the food of the population for two-thirds of the year, and a large portion of the ground is covered with them.† Barley, rice, and cotton are only raised in very small quantities.

Marv, surrounded as it is on all sides by sands, has an insupportable climate, and has very much fallen off from the brilliant Marv of the Persian period. There are besides a number of sands within its limits, and also marshes in the valley of the Murgháb. From the beginning of May to the end of September rain falls seldom, and snow usually begins in the first days of December. From the middle of February, when the rains begin, the mean temperature in the sun is 30° R. (67½° F.), and it rises gradually to 36° R. (81° F.) in summer in the shade. With a few variations this heat is continued to the end of September, and in it there thrive on the banks of the Murgháb a fabulous number of gad-flies and insects of all kinds. In the coldest month, January, the cold does not descend below 7° R. (15½° F.). The prevailing winds are southerly and south-westerly; they blow strongest, and rise even to hurricanes, in spring. They carry a great deal of sand and dust with them, and are called by the Turkumáns Kára-El (black wind). During summer these winds become very frequent, and raise clouds of fine sand and dust, which fill the air and make breathing almost impossible. Even the change between the temperature of night according to the state of the atmosphere produces the same effect, causing the inhabitants to live, as it were, in a perpetual fog.

In Marv sheep suffer from murrain, and camels from the swarms of flies, of which they cannot rid themselves; and, despite the fertility of the soil, after winters without snow and dry summers there is drought and scarcity in the *oasis*.‡ There was a great drought in 1872, at which time a *batmán* (42·3 lbs.) of wheat cost 4½ *roubles*, and in 1878 also, after a bad harvest, the

* The dam is 224 feet long, 42 feet thick, and 63 feet high. A guard-house, with 200 *kibitkas*, protects it.—*Author*.

† *Moscow Gazette*, No. 20 of 1880.—*Author*.

‡ Sometimes, as in 1881, a large number of red beetles (*kekene*) like locusts appear in the *oasis* and ruin the melon crops. There is also a disease called "shire," during which the leaves of the plant affected give out a glue-like liquid, and the plant dies.—*Moscow Gazette*, 1882.—Alikhánoff's letters.—*Author*.

price of a *batmán* went up to $1\frac{1}{2}$ *roubles*.* For all these reasons, Marv, which was so renowned in ancient times, is not thought much of now by the Turkumáns, who are continually endeavouring to settle at Sarakhs, on the bank of the Hari-Rud, on the slopes of the Elburz or Paropamisus Ranges.†

The Marvli have also fields on the Tajand. Alikhánoff, indeed, stated that the Tajand *Oasis* is hardly of less extent than that of Marv, and that 15 years ago 20,000 Marvli were occupied here in agriculture. The raids of the Kurds, however, forced them to quit the Tajand, and they returned to Marv in 1869. In consequence of this, the dams and the river have fallen into disrepair, the canals have become choked up, and the whole country has become a desert. After the fall of Gok-Tapa, when the fear of Kurdish raids disappeared for ever, some of the Tekkes returned to the Tajand *Oasis*, the number of whom Alikhánoff estimates at 3,600 *kibitkas*. The inhabitants do not extol the fruitfulness of their land. Wheat, barley, *jugara*, and melons grow in abundance; but there are no gardens.‡

In conclusion, let us add that Old Marv is now only represented by some ruins known to the Turkumáns by the name of Kuhna-Marv, and that the principal settlement in the *oasis* is $26\frac{2}{3}$ miles west of Kuhna-Marv and is called Kaushid-Khán-Kala.

In the order of importance, the third tribe of Turkumáns is that of the Salórs.

They are divided into three clans, each of 2,000 *kibitkas*, giving a total of 6,000 *kibitkas*. Petrúsevitch thinks these figures exaggerated; and later information collected in 1882 by Colonel Baron Aminoff puts their number at 2,500 *kibitkas*.

The history of this tribe is of little interest. In the third decade of our century, the Salórs lived on the Hari-Rud, near Sarakhs; but in consequence of the raids made by them in Khorássán, they were in 1833 driven from their homes by Abbás-Mirza. They then migrated to the Murgháb, but were driven from it by the Tekkes, and in 1851 obtained permission from the Persian Government to reside at Zurábád, where they remained till 1869. But life here did not please them, so in that year they migrated to their old homes near Sarakhs. Here they had only lived for two or three months, when one night the Tekkes fell upon them and drove off all their cattle. The proprietors followed their cattle, and since then have been numbered among the inhabitants of Marv to the amount of 2,500 to 3,000 families.§

The Sáriks are the fourth tribe of Turkumáns. They nomadize along the Murgháb from Panj-Deh and Maruchak to Yulatán and along the river Kaisor, an affluent of the Murgháb from the right. Their total number is 13,000 families. These figures are arrived at thus:—

The Sáriks engage in agriculture and have built a dam on the Murgháb, which throws the water into 18 large canals. Each of these in its turn feeds 30 small irrigating canals, from each of which the water is drawn off into 12 channels. The water of one such channel is used by one family, seldom by two,

* When Alikhánoff was at Marv, the average prices were—wheat, $4\frac{1}{2}$ d.; rice, about $1\frac{1}{2}$ d.; *jugára*, $4\frac{1}{2}$ d.; and barley, about $2\frac{1}{2}$ d., per *pud*.—*Author*.

† Petrúsevitch, p. 36. Alikhánoff gives the following figures of the numbers of animals in Marv for 46,000 *kibitkas*:—Sheep, 160,000; camels, 7,800; horses, 11,500; asses, 25,000; horned cattle, 46,000.—*Author*.

‡ *Moscow Gazette*, No. 204, 1882.—*Author*.

§ Petrúsevitch, p. 42.—*Author*.

and therefore the total number does not exceed $2 (18 \times 30 \times 12) = 12,960$ families.*

In the sketch of the history of Marv we have seen how the Tekkes in 1857 conquered the *oasis* and drove the Sáriks out of it, and how the latter moved up by the Murgháb to Yulatán, and in their turn drove out the Salórs and forced them to migrate to Zurábád. Soon after this they moved higher up the river, and took possession of the nomadizing grounds of the Jamshidis and Taimurs at Panj-Deh.

Although the Sáriks are now forced to maintain peaceful relations with the Tekkes of Marv, because the latter exceed them in number, and living only 35 or 40 miles below them, and therefore can always destroy them, the old enmity never having died out, still Petrúsevitch thinks that the Sáriks of Yulatán would willingly join any powerful force attacking the Tekkes. The fact is that the Sáriks of Panj-Deh hate the Tekkes, and never lose a chance of raiding on them. In its proper place will be mentioned the request of the Salórs and Sáriks to General Skobeleff to be allowed to settle on Bukháran territory at Kabakli or Uch-Uchák,† where they would consider themselves Russian subjects. How little the Salórs took part in the war against the Russians may be judged from the fact that only 150 men responded to the call to defend Akhál.

The Sáriks are rich, and owe their wealth to a peculiar breed of large sheep, which thrive in their country, and to their large herds of camels. This comparative wealth, however, does not prevent them from fulfilling the proverb of "No tree grows where camels feed, and there is no peace where there are Turkumáns," *i.e.*, they carry on raids and brigandage. For example, so late as 1877 the Sáriks raided to Turbat-i-Sheikh-Jám, drove off 30,000 sheep, and took many prisoners. The Persians, however, repaid them a hundred-fold. On telegraphic orders from the Sháh (the telegraphist was warned first that if he told any one of the Sháh's orders, he would lose his head), 2 battalions of infantry and 2,000 cavalry were collected. The expedition moved quietly and was successful, as the cavalry made the march from the Hari-Rud to the grazing grounds of the Sáriks in two days, fell on their principal flocks, and carried off 100 shepherds and more than 100,000 sheep into Persia; and the Sáriks will take a long time to recover from this blow.‡

The last group of Turkumáns are the Alili, who nomadize to the east of the Murgháb *Oasis*. The boundaries of their wanderings are the road from the Kaisor River to Maimana, Shibirkhán, Bákh, and the Amu-Ferry at Patta-Kisár, then along the Amu to Kalif. Some of them cross to the right bank of the Amu.

This tribe is very little known, and the limits between which its strength has been estimated are 80,000 *kibitkas* (Murávieff, Blaramberg) and 3,000 (Vámbery). But Venyukoff, taking a mean between the various authors, puts them at 58,250 (?) *kibitkas*. In consequence of the frequent raids made by this tribe, the Afghán Government now keeps a considerable force on the borders of Turkumania, from the numbers of

* *ibid.*, page 39. It is remarkable that, according to the figures collected by Lieutenant-Colonel Spolathog, the Sáriks are counted as Tekkes, and included in the Yalkamish clan. O'Donovan says the same. As the Yalkamish clan is nowhere else mentioned, we have decided to ignore it in our genealogical tree.—*Author*.

† From Kabakli to Uch-Uchák the country is uninhabited.—Bikoff's *Marv-Tekkes*.—*Author*.

‡ Petrúsevitch, p. 41.—*Author*.

which one might judge that the strength of the Alili must be much greater than that given by Vámbéry.

Having thus considered the various tribes in detail, we find the total number of Turkumáns to be 140,000 *kibitkas* or 700,000 souls of both, namely,—Kara-Chukha Yamúts, 10,000; Tekkes, 60,000; Sáriks, 13,000; Salórs, 2,500; Alili, 50,000 (?); and different smaller tribes, 1,000.* If we add to this number 83,200 *kibitkas* of Turkumáns of Bukhára and Khiva and 11,000 of Gokláns and Yamúts of Persia, we get a total of 234,000 *kibitkas*, or 1,170,000 men.† These figures are about an average between those given by all the authors above.‡ Whether our deductions are true or false, the figures are of no special practical importance, as all the history and the present life of the freedom-loving and undisciplined Turkumáns clearly show that the time has not yet come when the laws of civilized life can be applied to them, and till that time all figures such as those given above must be of quite a problematical character. So far removed are the manners and customs of the Turkumáns from those of civilized society, that a short description of them must now be given.

The Turkumáns§ are a race of Turkish blood and of the Sunni sect of the Mussalmán religion. Their form of life is nomad by preference, although they are approaching the point when, little by little, the nomad customs are, as circumstances permit, exchanged for those of civilization.

All Turkumáns§ are therefore naturally divided into two classes,—the *Chamur*, or settled, and the *Charva*, or nomad; but there is no sharply drawn distinction between the two classes. On the contrary, the *Charva* Turkumán frequently becomes *Chamur* and *vice versa*, as economic or family causes dictate. Whoever becomes possessed of a number of cattle, even although they have been captured in a raid, becomes at once a *Charva*. Thus a dispute with a neighbour, or marriage to a wife whose relations are nomad, makes a man give up a settled life; but the death of his settled relations who leave him property, the loss of his camels, or his marriage to a settled woman, may make him again become settled. There is little exterior difference between the life of the nomads and the settlers. Both live in *kibitkas*, and the *Chamur* even frequently change their habitation and re-pitch their *kibitkas* in a clean place, though still remaining within their own fields. The *Charva*, of course, change about more than the *Chamur*; but representatives of both may be found in one *aul*, and even in one family. Almost every *kibitka* of settlers has nomad relations; and families are frequently met with where the father is settled and the sons are nomad, or some are nomad and some settled, &c.

The Akhál-Tekke *Chamur* live in villages, and engage in cultivation and *alamáns*. The *Charva* live on the desert near 128 wells, and look after their camels and sheep; but a small number of *kibitkas* of *Charva* are found in the villages of the *Chamur*. Indeed, in Kizil-Arvat, Akh-Tapa, Yarája, Korjoff, and Tulki the former predominate.

The Bakshi-Dashayak tribe are entirely settled, the other three being partly settled and partly nomad.

The nomads are richer than the settlers, but are less warlike than the latter, and hardly ever undertake *alamáns*, because they have very few horses. They took very little part in the war against us, and consequently their losses

* Living on the island of Cheleken and Ogurchinski and round Krásnovodsk.—*Author*.

† Burnes estimates the whole number at 140,000, and Vámbéry at 196,500 *kibitkas*.—*Author*.

‡ Our ethnographic map of Turkumania is the first attempt at a map of the sort.—*Author*.

§ The word "Turkumán" means "I am a Turk."—*Author*.

were small, all the burden of the war and its consequences falling on the settled population.

The *Chamur* have sheep, horned cattle, and camels in small numbers, but have many more horses than the *Charva*.

Every Turkumán thinks himself quite independent and irresponsible to any one for his actions.

He only submits to the will of another in case of necessity or for some object, and has a proverb—"The Turkumáns of our day neither requires the shade of a tree nor the protection of any one," thereby expressing the strong preference of his race for the dangerous freedom of a brigand over the peaceful life of an orderly citizen.

Besides cattle-breeding, rearing of camels and sheep, and rudimentary agriculture, the Turkumán's only pursuits are brigandage and raids on the neighbouring provinces of Persia, Khiva, and Bukhára. When they cannot fall on the settlements and flocks of Persians, Khivans, or Bukhárans, they do not hesitate to take advantage of any negligence on the part of their fellow tribesmen. Petrúsevitch* says that all the Turkumán tribes are at war with one another,—the Yamúts against the Tekkes, and the Tekkes against the Sáriks, Salórs, and Gokláns. Even clans of one tribe live in constant strife. For instance, there is even now great hostility between the Atabai and Jáfarbai Yamúts.

A raid on the most extensive scale, and more or less organized, is called *alamán*; a small robbery by isolated individuals a *kaltamán*. In *alamáns* the Tekke gains, besides more or less plunder, a reputation for war and renown as a partisan; and this profession is not only not blamed by public opinion, but enjoys public sympathy, as a trade requiring cunning and bravery. Raiding as a trade is quite in accordance with the inclinations of the Tekkes, and, till lately, was one of the principal means of existence of the settled population.

In the eyes of civilized people the Turkumán's habit of raiding is a crime of the highest order; and all authors hardly find words bad enough to condemn this dark side of Turkumán manners and customs.

Baron Bode and Alikhánoff are more eloquent than others on this subject. The former denies that they have any good qualities whatever, and says that they are brave against cowards, and cowardly where they expect serious resistance.† He denies that they are magnanimous; calls them sluggards, and at the same time asserts that they are of a vindictive disposition.‡ Alikhánoff says that, except hospitality and splendid bravery, there is not one good trait in their character; they are cruel even to inhumanity, regardless of truth, of their pledged word, and even of their oath, if they think that it is to their advantage to break faith. Deceit and aggrandizement, at the expense even of friends and relations, are common things among them. They are all liars, fearfully gluttonous, and abominably covetous. Chastity and modesty are comparatively unknown; but sometimes they assume an unusual servility and Pharisaical deference, if they desire to ingratiate themselves with any one or gain an end of their own.

In short, it is impossible to idealize the character of the Turkumáns, and even in their proverbs, some of which are very witty, we find such sentiments as—"When the sabre has been seized, no other pretext is necessary," "The Turkumán on his horse knows neither father nor mother," and "Where

* Except the Gokláns, who lead a settled life.—*Author*.

† Page 43.—*Author*.

‡ Baron Bode is speaking of the Persian group of Turkumáns.—*Author*.

there is a city, there are no wolves ; where there are Turkumáns, there is no peace."

But though we recognize the fact, we cannot agree with the explanation of its causes ; and in dealing with the cruelties of the Turkumáns and their raiding proclivities, we must not judge from the standpoint of a society which has attained a higher degree of civilization. The Turkumán is a brigand, the robber of the desert, and a cruel robber. So much is a fact ; but the explanation of this fact can only be an answer to the question—Can a Turkumán, in his peculiar conditions of life, be anything but a robber and cruel ? To this question may be urged in reply the unfavourable conditions of his unfruitful and badly watered Fatherland, and the bloody history of his victories and defeats in wars with his semi-civilized neighbours, the Persians and Uzbaks, who are as crafty and unscrupulous, and even more cruel than the Turkumán himself. There is no doubt that bare and arid Turkumania cannot support its own inhabitants, however modest be their desires, and their inurement to a hard life. In the history of the wars on the banks of the Murgháb, we have seen how the increase in the numbers of the Tekkes forced them to seek other pastures and settlements, and become embroiled with the Sáriks, who are of the same race and belief. Evidently in such a case the question is one of life and death ; and under these conditions, in more civilized and fruitful places than the desert, human life is held cheap. With his contempt of danger, and the low estimation of the value of his own life and that of others, which is almost a part of the Mussalmán religion, the Turkumán grows up in hard and almost insupportable conditions of life. The nature of his country, which denies him not only bread, but partly also water, forces him to be harsh and licentious, and cruel to others. He is not magnanimous ; but what chance has he of learning magnanimity ?—Certainly not from the Persians, nor in the markets of Khíva and Bukhára, where he goes to sell his slaves. The explanation of the low state of Turkumán morals must be sought in their hard conditions of life and in their surrounding circumstances, and some excuse will be found for them, if their own cruelty and that practised by their neighbours be compared. In describing the campaign of Chingiz-Khán against Khovarezsm (the present Khíva), when he ordered the massacre of 400,000 people without regard to sex or age, Petrúsevitch comments on the cruelty of all Central Asian people, from the most remote period of history down to the Dungán rebellion in China and the hecatomb of Káshgár, at the time of its conquest by China. In Persia it is quite usual to cut off the heads of the Turkumáns who fall into their hands during the raids of the latter, and expose them for public amusement. In 1861, after the unsuccessful campaign against Marv, when the Persians were especially enraged against the Turkumáns, an *alamán* was captured, and the Sháh ordered all the prisoners, about a hundred in number, to be brought to Teherán. There they were tied up to the town wall, used as living targets for practice at long ranges by the *Sarbázis*, and all shot within the day. Regardless of the protest of the European Ambassadors, this massacre went on till the evening. In 1875, in honour of the brother of Nasr-ud-Din, who had been named Governor of Khorássán, twenty prisoners were in turn despatched with the bayonet when he entered the city ; and so barbarous were the cruelties practised, that the last Turkumán killed himself before he could be thus dealt with.

If we look at the history of Bukhára or Trans-Oxus, we read in Vámbéry how, in the seventeenth century, the pious and renowned Harun-al-Rashid of Bukhára, Imám-Kuli-Khán, revenged himself on Táshkand for the murder of his son,

Iskandar, by its inhabitants. On receiving news of his son's death, he immediately hastened to Tashkand, swearing never to cease his vengeance till the blood of the rioters flowed up to his stirrups. After a long siege the town was taken, and everybody massacred, except the old men and children. But Imám-Kuli, wishing to fulfil his vow, and observing that the blood of the slain only rose to his horse's fetlocks, ordered the remainder to be massacred also. However, luckily for them, the *Ulemas* found a way of saving their lord from the non-fulfilment of his vow and sparing the lives of the old men and children. A pit was dug, and the blood of the slain drained into it. Imám-Kuli rode into it, the blood reached to his stirrups, and the Amir then ordered the massacre to cease.*

We have said the above happened in the seventeenth century, when even European manners and customs were not too refined. But Amir Nasr-Allah, who ruled in Bukhára from 1826 to 1860, showed that two centuries had made but little difference in Central Asian manners; for he reached his throne over hosts of his slain brethren, and during the thirty-four years of his reign he tortured and killed an innumerable multitude of people, and among them two English officers, Stoddart and Conolly.

In the fifth decade of our century this Amir attacked Kokhand, and invited Tekkes and Salórs to accompany him. The Ruler of Kokhand, Muhammad-Kuli, taken by surprise, had to abandon his capital, but was captured at Margilán, and executed ten days later, together with his brother, his two sons, and a large number of his retainers. Vámbéry paints in the darkest colours the terrible tyranny of this man, who was cruel even according to Eastern ideas. In 1860, though in extreme old age, he waged war against his brother-in-law, Velinám of Shahr-i-Sabz. The news of the capture of the latter's fort reached the Amir as he was expiring, and with his last breath he ordered his brother-in-law with all his children to be put to death; but as his eyes could not be satiated with their blood, he ordered his own wife, the sister of Velinám, to be brought. The unfortunate woman was beheaded close to his pillow, and, as Vámbéry concludes in a theatrical manner, "feasting his eyes on the blood of the sister of his open enemy, he breathed out his despicable spirit."†

All that we have said of Persia and Bukhára might equally well apply to Khiva; but it is sufficient to mention the fearful state in which the Persian prisoners were found on the capture of the capital by our troops under General Kaufmann. In short, the peoples of Central Asia are all equally cruel, and therefore the Turkumáns cannot be expected to be anything else. The latter, however, display one trait which permits of our being indulgent to their weakness. The Khiváns, Bukhárans, and Persians, not only suffered themselves from the raids of the Turkumáns, but also too often made use of their bravery and blood-thirstiness in their international quarrels, feuds, and wars. In the long struggle between Khiva and Bukhára the Arsari and Salórs took a most active part, sometimes on one, sometimes on the other side. The Persian rulers of Khorássán and Astrábád have behaved, and do behave, more treacherously. In 1873 the Tekkes, under the leadership of Abdul-Hasan-Khán, the son of the Governor of the Province of Kuchán, plundered most of the settlements in the Kushhána Valley. Such instances are not isolated; and the effrontery of the Persians has gone so far, that Abdus-Samat-Khán, the Commander of the Militia of the Province of Astrábád, whose brother, nephew, grandfather, and son had perished in the wars with the Turkumáns, himself

* Vámbéry's *History of Bukhára*, translated by A. I. Pavlovski, p. 77.—*Author*.

† Vámbéry, p. 167.—*Author*.

led the latter to plunder the village of Surkhán-Kala, near his own district, thinking that he, as an official in a peculiarly exposed province, would gain much strength by utilizing the services of the Turkumáns and assuring himself of their support. The Governors of all the frontier provinces of Persia do the same, and inform the Turkumáns of the time and place for a successful raid into their own territory. In the event of insurrections, such as that of the Salórs in 1856, it is not to be wondered at that the partisans of Khorássán use the bravery and forces of Turkumáns in the same way as the Khiváns and Bukhárans did.*

With such a state of affairs among the Persians and Uzbaks, it is not surprising that all the north of Persia, once well populated, should now be a comparative desert. All the north of Khorássán and its eastern part, as far as the borders of Herát, has been plundered and devastated to such an extent, that, for example, in the district of Pyás-i-Koh, which lies on the left bank of Hari-Rud, of 460 villages, which were once in a most flourishing condition, only 20 now remain, and the district has received the name of Pyás-i-Koh-Kharáb, *i.e.*, the district of ruins beyond the mountains. The same may be said of the north of the provinces of Kalát, Daragaz, Kuchán, and Bujnurd, in which people are only now found in rocky and inaccessible places. In other places the population has been annihilated, and all the north bank of the Atrak to the west of the Bujnurd village of Pish-Kala is perfectly desolate, as here the Yamúts, Gokláns, and particularly the Tekkes, used to roam.

Persia, besides, has always been a favourite field of action for the Turánis. According to legends regarding the beginning of the strife between Irán and Turán, the state of affairs described relates to the most remote antiquity.

The people of the early days, spoken of in Firdausi's *Shah-Nama*, walked in the ways of uprightness and slew all the demons, and thus things went on till the reign of Jamshid. To this legendary ruler, who is said to have reigned 616½ years, the old Persian historians ascribe the invention of wine, the fixing of the solar year, and the introduction of a hierarchy in the civil constitution of Irán, and they consider him the founder of Persepolis (Takht-i-Jamshid, or the throne of Jamshid).

After a long and glorious reign, Jamshid forgot the power of God, and began to worship idols, finally declaring himself to be god. This alienated the sympathies of his God-fearing subjects from him, and permitted of the cruel and wicked foreigner Zokhák advancing on Irán.

The tyrant Zokhák, in the course of a reign of 1,000 years' duration, kept the people in terror with all his frightful abominations. During this period demons mingled with the people and corrupted the world. After ten centuries, however, Faridun, the son of Alarján, and a scion of the former reigning family, succeeded in defeating Zokhák, taking him prisoner, and throwing him into chains, after which, notwithstanding the dissensions thrown amongst the people by the demons, Faridun brought the people again into the path of truth. Unfortunately for humanity, the good Faridun married the daughter of Zokhák, and from this union were born two wild and cruel sons. On the contrary, his youngest son, born from Irándukht (the daughter of Irán), was distinguished by his gentleness and beauty. Dividing the world between these three sons, to Selma Faridun gave the west (Africa, Europe, and Western Asia), to Tura the east (Turán), and to Ireja, the charming Irán with all his treasures and his princely throne.

Having thus divided his empire, Faridun abdicated, and the two grandsons of Zokhák at once fell upon Ireja, defeated his army, killed him, and sent his head to his distracted parent. Faridun, mad with rage, gave the daughter of the slain man as wife to one of his relations, and their son, Minu-Chekher (Joy of Paradise), became the avenger of the blood of Ireja.

Thus began the wars between Irán and Turán, which have gone on to this day.*

The state of the frontier districts of Khiva and Bukhára is not much better than that of those of Persia, although they are in a measure protected from the raids of the independent Turkumáns by the semi-settled tribes, who are their subjects. Still they are kept in a constant state of disquietude, and the Bukhárans, to avoid Turkumán raids, often fill up the wells at places known to, and frequently traversed by, the Turkumáns, and dig others in places known to a few only.† In spite of this, in 1876 the town of Pitniák in Khiva was plundered by the Turkumáns. In 1877 the Tekkes looted a caravan at 50 miles from Kuhna-Urganj, and at the same time attacked the village of Ismamud. In 1876 they fell on the Bukháran fort of Kabakli, and in 1875 plundered the nomad Arsári at Rapatak, four marches from Chahárjui. Both the town of Pitniák and the fort of Kabakli are on the Amu-Daria, and are separated by only 133½ miles of navigable river, so that it may be easily understood how the navigation of this reach of the river is necessarily exposed to Turkumán inroads.

While recognizing no power in peace, the Turkumáns understand well the value of unity of leadership in war, and therefore, when a raid is planned, they choose from their midst a *Sirdár*, selected for his experience, bravery, knowledge of the roads, and influence in his tribe. This *Sirdár* is both the leader and guide of the raiding party, and usually receives a larger share of the booty than the others; but with the division of *loot* his authority over the others ends, and after it the *Sirdár* at once gives up his powers and prerogative.

A raid is usually proposed by the man who desires to lead it. The collection of the parties for *alamáns* begins after the harvesting in September, and goes on almost till May. Thus in summer few raids take place, winter and early spring being the favourite seasons, as there is much snow on the steppe, and marches are thus facilitated. Before the assembly of the raiders, the *Sirdárs* proclaim in the various *auls* that they are gathering men for an *alamán*, and ask all those who so desire to accompany them. When they reach the edge of the *oasis*, the raiders swear to obey the *Sirdár* solely and unconditionally. The bodies are of various strengths, from 150 to 700 or 1,000 men.

Tekke parties assembled for a raid on Khiva and Bukhára usually consist of both mounted and dismounted men. Every two footmen have one camel, on which they ride and carry all they require. Horsemen only take camels with them to carry forage in extensive raids.

In the armament of the Turkumáns there is nothing either of uniformity, martial splendour, or skilful adjustment of equipment, such as we see amongst the tribes of the Caucasus. The curved Turkumán sword, made in Khorássán, is of very bad quality. Their muskets are equally bad; but they have all systems, from old matchlocks to Lefauchaux carbines, and even double-barrelled sporting guns are met with. Their powder, which they get mostly from

* Ritter's *Irán*, pp. 29 and 30.—*Author*.

† Bikoff, *The Tekkes of Marv*, p. 14.—*Author*.

Khiva, is of very poor quality, and soon becomes dusty, while that manufactured by the Yamúts and Tekkes themselves is even worse. In the village of Bágir (in Akhál) there are even now large mortars in which powder is made. Sulphur is got from the sandhills between Khiva and Akhál, at a place called Kirk-Chulba,* and saltpetre from the ruins of Nissa and the sands round Annau.† A small quantity of English powder reached the Tekkes through Persia, whence also they received percussion caps. The Turkumáns have no cartridge boxes, but keep their powder in flasks and their bullets in bags, both fixed to their belts, and therefore they can only load very slowly. They carry pistols both on their persons and on the saddle.

The Turkumáns adapt their tactics to those of their opponents.

During their wars with Khiva and Bukhára, the mounted Turkumán usually advanced in skirmishing order, and, if the superiority of numbers was on their side, charged with the sabre. If the Uzbaks were in superior force, they would retire at first slowly, and then move quickly, so as to draw the pursuing enemy on to the infantry concealed amongst the sandhills. The latter would then deliver a sudden volley at a short range on the advancing troops of the enemy, and this would cause them considerable loss and force them, after collecting their wounded and dead, according to the Mussalmán custom, to retire, upon which the Turkumán horsemen would again attack with the sabre, follow up their advantage, and kill and capture as many as they could.‡

When undertaking a raid in Persian territory, where the villages are all surrounded by high mud walls, the Turkumáns take a scaling ladder for every ten men. These ladders are made of three or even four long poles with cross-pieces, long enough and strong enough to hold three men abreast. In the long poles notches are cut and the cross-pieces fastened in them with ropes. Having arrived near the selected villages, the Turkumáns hide close by till darkness sets in, and then make a sudden attack on the place, trying to select the moment when the cattle are being driven in, rushing into the enclosures or scaling the walls. While some of them cut down the defenders, or tie up those who make no defence, others drive off the cattle to the previously appointed place of assembly. In rocky places, unfavourable for mounted men, the Tekkes dismount and steal up to the walls under cover of the darkness, and the perfect quiet, and at dawn, when the unsuspecting inhabitants open their gates, the robbers rush in upon them and begin their work. Thus they surprised the villages of Nova and Khalva-Chashma in Kuchán in 1867, the town of Bála-Izmán, and many others.

The success of an *alamán* depends on the secrecy observed by all those undertaking it. If any one, for any reason whatever, gives notice to the enemy of a projected raid, every Turkumán has a right to kill him. The family and relations of such a person are driven out of Akhál, and their property is confiscated. There is no greater crime than treachery to one's own people, and therefore no one supposes that a traitor can be in their midst. In the war against the Tekkes we had not one single scout or spy of their race. In this respect the campaigns of 1879-81 are unique in the history of

* Lieutenant Kalitin saw pieces of sulphur at the wells of Sheikh between Gok-Tapa and Zmukshir, which had been thrown up in digging them.—*Author*.

† O'Donovan talks of the great abundance of saltpetre in the soil of the Atak in places marked by the ruins of towns and villages (Marv Oasis, Chapter XXXIV). Specimens sent to our artillery establishments and tested chemically were found to contain two per cent. of saltpetre—a sufficient percentage to justify measures being taken to utilize the supply here.—*Author*.

‡ *The Tekkes of Marv*, Bikoff, p. 10.—*Author*.

Central Asian warfare. In the war against us the Akhál-Tekkes went even further, and determined to kill all those who, by the fortune of war, fell into our hands. Taghma-Sirdár, who in 1879 was a long time in our camp engaged in diplomatic negotiations, and who actually betrayed his own people, was, thanks to the conviction of the Tekkes that no traitor could be in their midst, only accused of not desiring to fight the Russians and of advising submission to them; but it never entered into the mind of any one that he could betray them to the Russians.*

In the wars of 1879-81 the Tekkes had no spies, but learned all that we had done or intended to do from our Yamút and Goklán *Jigits*. Some of these knew where and how to find the Tekkes, and went to those points to give them intelligence; but the Tekkes used to waylay others, meet them, and question them. They never hurt such *Jigits*, nor did they touch their despatches; but they killed all those who performed their duty conscientiously and who fell into their hands. The Yamúts belonged to this class, but the Gokláns, who considered themselves indebted to Nur-Verdi-Khán for the help he had afforded them, betrayed us constantly.

Our intelligence of the enemy was principally received from people of Nukhur or Kári-Kala.

In Turkumán *alamáns* horses play a more important part even than their tactics or arms.

The renowned Turkumán trotters are a cross between the native horse and the Arab. The first intermingling of blood probably took place in very remote times, and is known only by obscure traditions. This crossing of blood has several times been repeated since the time of the first Arab wars after the conquest of Persia. Tamerlane did much to improve the breed of Turkumán horses, as he distributed among the tribes 5,000 Arab mares of the best breeds, and latterly Sháh Nasr-ud-Din has also improved the breed by distributing 600 Arab mares.†

The Turkumán horse is 15 to 16 hands high, and has well made and clean legs. Its body is small in comparison with its height, its chest narrow, and its neck is long, thin, and straight. Its head is rather large. Indeed this breed has neither the beauty nor grace of that of a pure Arab horse, and its tail and mane are scanty, the latter being frequently hogged.

The Turkumáns have no studs, and their horses are simply reared near their *kibitkas*, as with the Arabs. The animals are thus constantly with human beings, and therefore become docile, obedient, and intelligent in the highest degree. The Turkumán loves and cherishes his horse more than anything else in the world, and frequently *kibitkas* may be seen covered with old felts, the owner and his family dressed in filthy rags, while alongside his horse stands with a good felt covering and a richly-worked blanket.

In the Turkumán steppes in the basin of the Amu, and especially near fresh water, is found a poisonous insect called *massa*, the sting of which is peculiarly hurtful to horses, even after a lapse of several months. The horse thus stung becomes ill, its belly swells up, and finally it dies. This danger to the life of the animal which he holds dearer than wife or child causes the Turkumán to take special precautions for its safety, and therefore the horse is clothed from its head to its tail in summer and winter with felt covers.‡ On its back are

* Express declaration of Kul-Murád-Kázi, Kurbán-Murád-Ishán, and Kairi-On-Begi in conversation with Lieutenant-Colonel Spolathog.—*Author*.

† The Turkumáns of the Yamút Tribe, in the *Voyenni Sbornik*, No. 1 of 1872.—*Author*.

‡ I. Ibrahimoff.—*Author*.

placed two felt saddle-cloths, and over them a woollen blanket (called *kajári*), reaching from its withers to its tail, and lined with soft felt. Two flaps cover its breast, and over the whole is placed a white felt, the front part of which covers all the neck of the horse from its ears, and which is fastened in several places under the neck and body, the hinder part hanging loose over the tail. Lastly, above everything is placed a large felt, covering neck and body, and reaching to within an inch or two of the ground behind. The white felt and the last mentioned cover are folded under the horse's belly, and fastened by a long and broad sureingle of woollen tapes (*Yelkián*). The Turkumáns know neither currycomb nor brush, but groom the horse entirely by hand. The horse's coat being thus always protected by felts, become beautifully soft and silky, and is always kept scrupulously clean. The horse, after being covered up, is fastened with a 35-foot rope, which is tied to his head-collar or to one of his hind feet.

The Turkumán saddle consists of a light wooden tree, with no arch on its hinder part, and in this respect somewhat resembles an English saddle. Its front part is bent from the middle somewhat abruptly upwards, and ends in a high arch with an oval top. The stirrups are of iron and are very large, highly ornamented, and hung by short leathers so far to the rear of the saddle, that for a man unaccustomed to such an arrangement the seat is highly unpleasant and clumsy. Below the tree is placed a saddle-cloth made of several thicknesses of felt and of triangular form, rounded in front and cut out in rear; and this with the saddle-tree forms the Turkumán saddle. In saddling a horse, the clothing is first taken off and the animal carefully hand-rubbed; then the felt saddle-cloths are shaken out and replaced on its back. On these is placed the saddle, which is fixed by girths, and a breastplate consisting of straps fixed to the arch of the saddle; and over all is put the *kajari*, which has an opening for the arch of the saddle. The horse's chest is also covered over when he is only ridden at a walk, or when it is very cold; but usually the breast-flaps of the *kajári* are turned back and hooked to the arch. Above the *kajári* is placed the white felt cover, which has also an opening for the arch; and then the front and rear parts of both the *kajári* and white felt are folded on to the saddle to form a seat, and fastened by a sureingle. The Turkumáns ride with snaffles, as they consider that large bits spoil the horses' mouths. These snaffles are of the ordinary pattern, and the bridles are provided with fringes to keep the flies off the eyes and nose of the horse.

Turkumán horses are taught the following paces:—

1. The ordinary walk, which is long and swinging, and only in a few horses degenerates into an amble.
2. The short trot, which is much used by the Turkumáns on the march, and is an uncomfortable pace, although they say that thus the horse is less easily tired.
3. The long trot, very seldom used by the Turkumáns, as the horses are seldom broken to it, and do not possess the necessary free action, though this want is soon corrected after a few tiring rides.
4. The gallop, the pace best liked and most practised by the Turkumáns, and their horses are broken to all degrees of it, from a collected canter to full gallop. They gallop very quickly, but seldom are put to their full speed. Usually the Turkumáns ride at a trot for about 600 paces, and then break into a gallop, and do not draw rein for 15 or 20 miles, even with most ordinary horses.

When about to undertake a long raid, the Turkumáns bring their horses gradually into training. If the horse is in too good condition, he is gradually brought down by feeding with hay or *saman* (chopped straw), and his barley ration is reduced. He is regularly exercised daily, beginning with short

distances at a gentle pace, the distance and pace being gradually increased. The flesh on the horse having been reduced, the strengthening process begins, and he is given cakes of barley and maize, flour, mixed with sheep's fat. His usual daily ration is 5·4lbs. (English) barley, 2·7lbs. (English) of maize flour, and the same amount of sheep's fat, the latter being pounded fine and the whole made into a paste. The Turkumáns think that cakes are more useful than anything else in strengthening a horse. If a horse, after half an hour's full gallop, takes only one mouthful of water, this is regarded as a sign that his flesh has been sufficiently reduced, and the ration of cakes is increased, and after four or five days he is considered fit to undertake the longest journeys at a quick pace. When starting on a raid, the Turkumáns at first make short marches and gradually increase them. The horses are fed with whatever can be procured, but cakes with sheep's fat are given to them when possible. A peculiarity of the Turkumán horse is that, however heated he is, he can always drink; only he should be galloped for a few minutes after drinking. The Turkumáns never think it necessary to bathe or wash their horses; but after a long march in hot weather they remove the saddles and saddle-cloth, and carefully scrape off the sweat with a scraper, wash the back with water, and at once replace the saddles with the saddle-cloths only.

The horses are ridden at 2½ years of age, and at 3 years are considered fit for long journeys.

The Turkumáns, like all Asiatics, are very superstitious, and would sooner walk than ride on a horse with a white spot or mark on its off hind leg.

The prices of horses vary from 180 to 200 *roubles* for an ordinary horse, but animals worth 300 to 450 *roubles* are very common.* The Turkumáns rarely sell their very good horses, as they have very few of them.

The Turkumáns have a clumsy and ugly seat on horseback; but this is in part caused by their flowing costume. They have no idea of feats on horseback as performed by our Cossacks, but shoot at a trot with their pistols at a cup lying on the ground, which, however, they seldom hit. For riding long distances without feeling fatigue they have few rivals. A journey of 400 miles performed in 6 or even 5 days is no uncommon thing among them, and there is a perfect mutual understanding between the rider and his horse; and, adds the author of *The Turkumáns of the Yamút Tribe*, in concluding his excellent account of the training of Turkumán horses, as long as they have good horses the Turkumáns will be brigands, and *vice versá* the breed of horses will only be kept up as long as the Turkumáns remain brigands. In Khiva, Persia, and Afghánistán Turkumán horses grow fat and heavy, and become much less intelligent.

On their return from a raid, the Turkumáns give their horses rest, and they graze peaceably round the *kibitka* tied by a long rope, and are taken care of by the whole family, the members of which groom and feed and occasionally ride them. The pride of the Turkumán may be seen then, tied to his long rope and lazily wandering round the *kibitka*, now eating from his barley trough and now at a pile of melon-rinds.

When there is grass near a nomadizing place, the horses are taken out to graze and tied up by the foot as usual; and the Turkumáns say that the scanty grass of the steppe is very good for horses, as it raises the temperature of the blood and strengthens the muscles.

The yearly recurring raids have given the freedom-loving brigand of the desert some idea of the security of putting himself under the command of

* *The Turkumáns of the Yamút Tribe*,—*Voyenni Sbornik*, 1872, No. 1.—*Author*.

some one in special cases. Thus the Russians, in their conquest of Trans-Caspia, not only found that there existed among the Turkumáns an idea of common law as regarded the distribution of land and water, but they even met with *Kháns* among them. These representatives of an incipient form of government had a minimum of power; but they nevertheless served to show that there existed amongst the people a notion of the necessity for some sort of persons to serve as representatives and protectors of the people at important times.

Recent lights thrown upon the life of the people of Akhál have shown us that, besides the *Kháns*, there is a council, called *Jum-gurie*, which is partly elective and partly hereditary. This Tekke parliament consists of the men of mark of each *aul* chosen by the *Khán*, but including one or two representatives (*Aksakáls*) from each tribe living in the *aul*. The *isháns* (priests), who are renowned for their holiness, also take part in the parliament.*

In such an assembly are decided not only political matters concerning the great *alamáns*,† and offensive or defensive measures, but also matters of home policy and common law, and many questions of justice arising from every-day relations. For all decisions an effort is made to receive a unanimous vote of those present. In cases where there is a difference of opinion, the decision is put off for three days in the hope of securing unanimity; and if even then this hope is not fulfilled, the question is left open for an undefined time. In cases where there is a visible majority for one side of a question of public importance, the assembly is prolonged for three days; and then, if the minority persist in their opinion, the question can only be settled by the general feeling of the whole community.

A *Khán*, in the language of Akhál, means the principal servant of the whole community. His counsels, as those of a person of mark and importance, are equivalent to orders, and are always obeyed unconditionally as long as they do not violate actual customs. If they attempt the latter, the *Kháns* are deprived of their power and get themselves laughed at. The power of custom is so strong among the Tekkes, that they look upon anyone attempting to change their habits as a criminal, whom they drive out of their community or force to obey the customs; and this is why the Tekkes so seldom fail to obey the counsels of a *Khán* or *Elder*, to whom the people have always referred for the settlement of their affairs.

Every *aul* in Akhál Tekke has its own elected Elder. At elections the successful candidates are usually the children of the former Elder, but personal qualities and past services are also taken into consideration. If he possesses the necessary qualifications, the Elder is chosen out of the family of the former incumbent; and thus the office of Elder has become in a measure hereditary.

On military service the Elders take the title of *Khán*, which they bear not only in their own community, but throughout all Akhál.

Each settlement elects its own council (*maslahat*) of men of mark (*aksakáls*) of each class represented in it, and the decision of this body is respected by the whole community, and cannot be appealed against.

* In the Marv parliament each tribe is represented, according to its size, by one or more members. This is not an institution for the permanent government of the people; on the contrary, its members are chosen with a view to the question to be debated upon. In all important cases which concern the whole people this assembly is called together, and the question decided by concurrence of votes.—*Author*.

† Numberless small *alamáns* are conducted independently.—*Author*.

To carry out the decisions of the *Jum-gurie*, the Khán has 40 *farráshes* (gendarmes), who always follow him.* If any one refused to obey the counsels of the popular assembly, the whole community drove him out, and he usually took refuge in Nukhur or Khiva, as no community in Akhál would receive him. In special cases, as in the construction of the works of Dangil-Tapa and Kaushid Khán-Kala, the Khán used the stick to the lazy ones.

Besides their Kháns and Assemblies, the Tekkes, like all other Muhammadans, have judges, who decide cases by the *sháriat*, and who are priests or *kázis*. The Turkumáns, however, are no fanatics, and do not trouble themselves much about religion; therefore their *mullahs*, *isháns*, and *kázis* enjoy no great consideration, and the decisions of the *kázis* has always to be based on popular custom or confirmed by the *maslahat*, without which they, although based on the *sháriat*, have no effect. The usual matters decided by the *kázis* are small cases,—disputes as to inheritance, complaints of wives against their husbands, and questions of divorce.

The two most important spiritual leaders among the Tekkes at the time of the Russian war were Karim-Berdi-Ishán,† renowned for his holiness, and Kurbán-Murád-Ishán, renowned for his skill in war. Both were relations of the Khán of Akhál and of importance in the assembly. They were expounders of the Kurán, and knew how to read and write, and therefore were employed on diplomatic missions.

The Khán of Akhál and the village Elders received pay from the community in the shape of a tribute of land and water from each *aul*, and besides, for the support of the 40 *farráshes* and of the *Sirdár* serving with the Khán, a yearly subsidy of 1,000 *tománs* (3,000 *roubles*) was paid by all the inhabitants of the oases.

The Tekkes of the present day recognized the following Kháns as rulers in Akhál:—Karácha-Sirdár of Archman, and after him his son, Saalikh-Sirdár. After the latter was elected Kari-Oglan-On-Begi-Khán, who subdued Durun; but on his death the new Khán, Ak-Muhammad-Sirdár, was chosen from the family of Karácha-Sirdár. He, however, was soon deposed, and Iwaz-Saalikh-Sirdár, his brother, elected in his stead. After him was chosen Nur-Verdi.

The Tekkes acknowledge only the services of Kari-Oglan-On-Begi, the conqueror of Durun, and of Nur-Verdi-Khán, who really was a remarkable man, and we therefore shall enter into his biography, so far as it is known.

Nur-Verdi, the son of a rich Turkumán of the Wakil tribe, named Daulat-bai, was born in 1829. While still a young man, he found favour with Kari-Oglan-On-Begi, Khán of Akhál, who frequently asked for and followed his advice, notwithstanding the youth of the adviser. His first and most splendid feat was the defeat of Jáfar-Kuli-Khán of Bujnurd‡ and the capture of his guns at the battle of Kári-Kala by the united forces of the Gokláns and Tekkes. It was because of this victory that Nur-Verdi was chosen Khán of Akhál; but the personality of Jáfar-Kuli-Khán, whom we have already mentioned several times, is so typical and important for the comprehension of

* Kaushid-Khán of Marv formed a body of 2,000 *farráshes*, and, trusting to their support, according to Alikhánoff, assumed boundless power over the people, even to adjudging the punishment of death. His heir, Nur-Verdi-Khán, disbanded this force. After the conquest of Akhál by the Russians, according to O'Donovan, the Khán raised a regular militia of 2,000 horse under four *gessauls* to prevent raids. At first they did not perform their work badly, but in the end they got the privilege of receiving a percentage on the booty captured by an *alamán* not conducted with their co-operation.—*Author*.

† Killed during the siege of Gok-Tapa.—*Author*.

‡ Petrusévitch p. 62.—*Author*.

Persian relations with the Tekkes, that we consider it necessary to go here into the details of his campaigns in Turkumania.

In 1856, at the time of Salar's rebellion, his son-in-law, Jáfar-Kuli-Khán, of Bujnurd, thinking that all the northern provinces of Persia would rise against Muhammad, Sháh of Persia, raised the standard of revolt in Kurdistán. He was disappointed, however. Salar, defeated by the troops of Faridún-Mirza, was captured and imprisoned, but Jáfar succeeded in escaping to Akhál, and in finding protection there. The Tekkes, proud that the brave chief of the Kurds had come to them to seek assistance and protection, received him with honour, and showed themselves perfectly ready to undertake an *alamán* with him. Jáfar-Kuli-Khán spent three years in Akhál, and during that time constantly plundered his former province along with the Tekkes, and several times reached Mashad. In 1860 Muhammad-Sháh died, and was succeeded by Nasr-ud-Din Sháh, upon which Jáfar was pardoned and invited to Teherán, where he arrived with an escort of honour of 40 Tekkes, who brought presents, according to the usual custom, to show their devotion to the Sháh.

Having received rewards for their peaceful visit to Persia, the escort returned to their houses, but Jáfar remained in his new dwelling till appointed Governor of Bujnurd in 1863. The Tekkes, hearing of the appointment of their former *alamán* to the governorship of the province he had so often plundered at their head and with such success, sent a deputation of 60 men of good position in Akhál to meet him. But the treacherous Governor ordered them to be seized and brought as prisoners to Bujnurd, and, not content with this, he made a raid on Archman, captured it, and carried off 500 families, whom he forcibly settled in his own province. The Tekkes, highly enraged at these proceedings, at once deposed their own Khán, Ak-Muhammad-Sirdár, elected his brother, Iwaz-Saalikh-Sirdár, in his place, and, with the aid of the inhabitants of Kári-Kala and the Gokláns, made constant raids into Persian territory. The Sháh, exasperated by the increasing daring of the Turkumán robbers, ordered Jáfar-Kuli-Khán to capture Kári-Kala, and he, having gathered a considerable force, advanced to destroy this nest of brigands. But the Tekkes collected about 4,000 horsemen under Nur-Verdi, and at Manchuk-Tapa, near Kári-Kala, they united with the Gokláns, fell at once upon Jáfar-Kuli-Khán, and, after a long battle, defeated the Persian army and forced it to withdraw. In this battle the Tekkes captured the gun they used during the siege of Dangil-Tapa in 1880-81.

The battle of Manchuk-Tapa gained a great name for Nur-Verdi in the opinion of the people, and, as a reward, he was unanimously chosen Khán of Akhál.

Of the subsequent triumphs of Nur-Verdi-Khán, we know that he led an attack on the Daragaz Fort of Otanli, whence (in 1866) he carried off 200 prisoners; that he stormed the Daragaz Fort of Byatarat, and took 400 prisoners (1867); that he captured the Daragaz Fort of Saadat with its garrison of 280 men (1878); * and that he destroyed the Kalát Fort of Khwája-Ahmad, taking 760 prisoners (1869). After these, in *alamáns* which were planned by Nur-Verdi-Khán and led by his Sirdár, Pasha Sirdár, a Kurdish post at the entrance to Kalát† was taken in 1872 along with 200 *Sarbazis*, and then the fort of Neft in Kalát itself was captured along with 450 prisoners. The last

* 1868.—J.M.G.

† Kalát is a mountain of circular form, which can only be reached by a few paths lying in steep parts of the rock and in the ravines of watercourses. The latter are in places several miles long and look like narrow corridors, in which a handful of men might detain an army.—Author.

raid organized by Nur-Verdi-Khán was in 1874, when the Daragaz village of Chapishli was captured, and in which 1,200 horse from Marv also took part. The Turkumáns did not leave one stone upon another in Chapishli, and carried off 1,400 prisoners.

A year after his election to Khán of Akhál, Nur-Verdi went over to Marv, whence a call for help against the Sáríks from the Tekkes living there had reached him, as the question of possession of the fertile banks of the Murgháb had not then been settled. He took 2,000 horse with him, crossed over to Marv, and in six months reduced the Sáríks to subjection, drove most of them out of the *oasis*, and settled the 10 or 15 remaining families among the *auls* of the Tekkes of Marv. After this, the Tekkes of Marv gave Nur-Verdi-Khán a large allotment of land and water, and promised him Gul-Jamál, the most beautiful and wise girl of the Wakil tribe, in marriage. Here he remained for two years, and then returned to Akhál, where he was again recognized as Khán. During his absence from Akhál his eldest son, Berdi-Murád-Khán, was recognized as Khán, as guardian and tutor of whom Oráz-Muhammad-Khán, a man of note, had been chosen by the people. At the death of Kaushid-Khán in 1875 the Marvli elected Nur-Verdi as their Khán.

During the reign of Nur-Verdi-Khán the Persians did not make a single raid into Akhál.

Besides his military services, the name of Nur-Verdi-Khán will long be remembered in Akhál, as he restored, at his own cost, the *karez* at the village of Kelete, which for 150 years had been in ruins.

A *karez* is a peculiar sort of underground canal, which is always filled with excellent fresh water. These *karezes* generally run in the valleys, and in their construction walls are sunk in the valley-line at distances of about 30 yards apart and even less, right down to the plains. These wells become deeper and deeper the higher up the hill, and are united by an underground gallery. The Persians are the only people in Asia who understand the construction of these gigantic works, which are almost beyond the conception of European engineers; and as the clearing out of a *karez* is almost as difficult a work as the construction of one, Nur-Verdi-Khán had to invite Persians to his aid in the repairing of that at Kalát.

In his private life, Nur-Verdi-Khán was distinguished by justice and truth. Handsome, of distinguished appearance, and of powerful physique, his majestic exterior prepossessed many in his favour, and, besides, he was loved by all and respected in Khiva, and even in Persia.

He had three wives,—two in Akhál and one in Marv. Those in Akhál were Raabi-Guzel, of whom was born a son, Berdi-Murád, who was killed at the Russian attack on Gok-Tapa in 1879, and Narr, of whom was born Mahtum-Kuli-Khán. His family in Marv consisted of his wife, Gul-Jamál, and one son, Yusuf-Khán. All these sons, especially the two former, took a prominent part in the wars with the Russians.

Nur-Verdi died at 50 years of age during our campaign in 1880, and, as Berdi-Murád had been killed, Mahtum-Kuli-Khán was chosen Khán of Akhál. In the troublous times which then ensued in Akhál, Mahtum-Kuli-Khán did not rise to the occasion, and a council of four, consisting of representatives from the four tribes of Beks, Wakils, Sichmaz, and Bakshi-Dashayak, was entrusted with the executive power. Mahtum-Kuli-Khán was the Wakil representative in it. The proceedings of this council will be mentioned in their proper place.

We shall enter more into detail hereafter regarding the doings of another man of note in Akhál,—Taghma-Sirdár; but here we will only mention that he had distinguished himself by his bravery at the defeat of Jáfár-Kuli-Khán, and he claimed the gun captured as his own, although this opinion was not shared by the people of Akhál.

From what we have said above, it is evident that Turkumán society had just reached that stage of development when the completely independent nomad begins to have a leaning towards a settled life. They had no fixed authorities, no permanent institutions of government; but still people of influence, Kháns, Elders, and members of the council, had begun to gain authority amongst the crowd. The Turkumán had begun to feel the necessity for a common law, as with improved agriculture his life had become more settled and his requirements greater. Customs, which hitherto, even in their rough form, had satisfied the nomad, now began to appear to him unsatisfactory and insufficient; and by reason of the usual necessities of life the settled part of the population had arrived at the threshold of an organized law. Indeed, Turkumán customs had become almost law, and had a many-sided importance. Besides the rights of families, we find rights of land defined and combined with ideas as to inheritance, and also general obligations, such as a recognition of the suzerainty of Khiva, Persia, or Bukhára, and of the authority of their own Khán. The safety of merchants trading with Akhál was also recognized.

In the Akhál *oasis* all land is common, and every Tekke has the right of tilling any good land. But as the amount of arable land is exactly proportional to the quantity of water available for irrigation, the basis of land tenure is the right of using the water. Whoever has most water has also most land. The laws on which are founded the rights of using the water are highly primitive.

The possession of sources of water is gained either by conquest or by purchase.

Natural rivulets, *i.e.*, those flowing directly from the hills, belong to the community through whose village they flow; and the inhabitants divide the water equally among themselves. Each *kibitka* has a fixed time during which the water is allowed to run over its land, *e.g.*, half a day of water or four hours, &c. The water may be sold—but only to another inhabitant having a right to it.

Water taken from the neighbouring kurds belongs exclusively to its conquerors,* and is divided equally among them, except that the *Sirdár* has a larger share than the others. Conquered water is handed down to the heirs of the conquerors, but may also be sold to any one; and if in the village through which the conquered water flows there are inhabitants of other tribes than the conquerors, they may buy the water.

Water flowing in a *karez* is the property of the constructor of the *karez*. He may sell the right to it to separate people or to a community, which may divide the water among its members.

There are inhabitants who have no right to water; and this arises from their having gambled away their share, or sold it to ransom prisoners in Persia, or to get money to buy wives.

The right to water belongs principally to the settled population; and the nomads own hardly any, but buy it in the villages, and give half their crops as a pledge for it.

* In the Marv *Oasis* some Tekkes possess water and land by right of conquest, and let them out to other Turkumáns.—*Author*.

The water is managed by *mirábs*, chosen by the community ; and there are no documents of rights of possession, these rights being only handed down by tradition. Nur-Verdi-Khán was the richest owner of water in Akhál, and two *karezes* belonged to him.

Land in Akhál is measured, not by square units, but by the amount of *batmáns* (each 42·3 lbs. English) of grain required to sow it. Some Tekkes have only two *batmáns* of land, and others five, and even more. A ten-fold crop is considered a poor one, and twenty-fold a good average ; but with a damp summer a crop of 30 *batmáns* of grain may be raised for one *batmán* sown. The grain produced in Akhál hardly suffices for the *Chamurs* ; and the *Charvas* buy it in Persia or Marv, but principally in Khiva. The *Chamurs* sell only a very small quantity of grain to the *Charvas*.

Of cultivated grains the best is lucerne, here called *junja*, which is sown once in six years, and mown five and even six times a year ; and after that an excellent crop of wheat can be raised from the same field. Famines sometimes take place in Akhál, such as in 1860 and in 1872. In the former year it was produced by heat and want of rain, which ruined all the crops, and in 1872 by a sudden frost after the warm rains, which, besides spoiling the field crops, also damaged the gardens, making the vines unfruitful for two years and killing all the fruit trees.

In Akhál the fields are watered from the streams, which flow from the Kopet-Dágh and from *ariks* (canals), which distribute the water over them. There are four *karezes*, which are all of ancient construction,—at Yegyán-Bátir-Kala, Askhábad, Begerden, and Kalata, the latter being that repaired by Nur-Verdi-Khán.

Slavery is common among all Turkumán tribes, the slaves being those captured in *alamáns*. Up to 1873, when slave-markets existed in Khiva and Bukhára, the Tekkes usually sold their captives there ; but when these were closed, those Tekkes, who formerly had treated their slaves with a certain amount of kindness, began to use the harshest measures with them, to force them to write to their kinsmen and ask the latter to ransom them. Thus, for example, a prisoner of ours, Gunner Kidyáeff, was tortured in every possible manner by his master, Tanatar. The first and second fingers of both his hands were tightly bound with silk, and wooden nails were forced in between them ; burning coals were placed on his back, and during the frost he was stripped naked and tied to the trunk of a tree for several hours. After these tortures, Tanatar forced Kidyáeff to write to the Governor of the Amu-Daria District, demanding a ransom of 48,000 *roubles*. Kidyáeff did so ; but when an answer was received to the effect that the money would be paid when the prisoner was handed over, Tanatar renewed the torture of the unhappy man. In this state he lived for four years ; and when finally, worn out by his treatment, he fell ill, a certain Anna-Geldi requested Tanatar to give him Kidyáeff, and bound himself, on the security of four Tekkes, to give Tanatar a certain sum of money in case Kidyáeff died or ran away. Irons are usually put on slaves, not only on their feet and hands, but even round their necks ; and to the latter a rope is attached, and this is tied to the *kibitka*. With Tanatar, Kidyáeff had worn leg-irons forged on below his knees, and a chain had been placed round his neck and another round his waist, both fastened to a pole ; but Anna-Geldi left only the leg-irons on, and took off the others.* While chained round the neck, he had only been able to sit, but not lie down. These chains are a most necessary part of the

* Gunner Kidyáeff was a prisoner in Marv from the end of 1873 till the middle of 1881, and was freed by the events of the 12th January 1881.—*Author*.

furniture of every Tekke *kibitka*, as they are used to hang the kettle over the fire. Prisoners are employed in gathering firewood, fetching water, and sometimes in feeding sheep, and are usually very badly fed.

It is a noteworthy fact that the Kara-Chukha Yamúts, who recognize the suzerainty of Persia, used to, and still do, capture Persians as slaves. They have a proverb, which says: "No Persian can cross the Atrak except with a rope round his neck." To our authorities they said: "How can we be subjects of Persia when we have Persian slaves? Can a Russian be a prisoner of Russia?" This statement was made in order to show how little authority the Sháh had over them, although in some cases where it appeared to them to be to their advantage, they were not slow to assent that they were Persian subjects.

The prestige of the Tekkes as brigands is very great, especially in Persia. A story is told how once a Persian, who enjoyed a great reputation for bravery, was attacked in the night by a Tekke. The former was the stronger, and threw his opponent to the ground; but when he took out his knife to cut his throat, the latter called out, "What are you doing; don't you see that I am a Tekke?" and the Persian at once lost his senses and dropped his knife. The Tekke then took it up and killed his antagonist. Even after the capture of Gok-Tapa, when a large number of Tekkes crossed over into Persian territory, they were received with bread and salt by the Kurds; and every time they have crossed over into Persia with peaceable intent, they have not only been received with hospitality, but every one has sought to gain their good graces.

Their habit of brigandage, which has gained for the Tekkes so much material prosperity, has also given them a certain amount of political prestige. The Amir of Bukhára was of opinion that a Persian army of 100,000 men would be required for the conquest of Akhál, and Yár-Muhammad-Khán, Governor of Bujnurd, thought that an army of 20,000 men was too weak to capture Gok-Tapa. When the news of the defeat of the Turkumáns by Markozoff in 1872 arrived in Chikishliar, a Turkumán who was with the army barely escaped with his life from the Yamúts for spreading what they considered false rumours. The man was suspected of having been paid by the Russians to spread these reports, as no one believed that the Tekkes could have been forced to run, even by the Russians.*

Thanks to their good quality, the value put upon all Turkumán manufactures in Khiva and Bukhára has always been very great.

There has always been very little trade among the Tekkes, and, strictly speaking, there are no traders among them, although some Tekkes sell camels, horses, or prisoners across the border, and buy tea, sugar, raisins, cotton cloth, red fustian or Persian woollen cloth, and silk goods. They announce in the various *ouls* the goods they have brought, and then everyone can buy what he requires. The permanent trade of Akhál is in the hands of Khivan and Persian merchants, who risk the dangers of travelling in the *oasis*.† The Tekkes, however, usually regard the persons of merchants as sacred, both on the arrival of caravans in the *oasis*, and on their return journey. The greater part of the necessities of life for a Tekke are, however, prepared at home; and among the latter may be mentioned firearms. Almost every Tekke is an armourer; and although their workmanship is bad, there are nevertheless smiths who can turn out rifle-barrels and fix

* *Vide* Markozoff's Letter to the Caucasus Staff, No. 750 of 20th November (2nd December) 1872.—*Author*.

† In Marv there are 30 Jewish families exclusively engaged in retail trade.—*Author*.

bolts at the breech somewhat after the manner of the Berdan rifle. The Tekkes can also make excellent cartridges for the Berdan.

The Tekke women weave cloth, carpets, and canvas, and can also make beautiful felts; but all those are made for home use only, except the carpets, which are willingly bought in Khiva and in Persia, where it is thought good taste to have real Tekke articles; but the principal trade of the Tekkes is in camels and horses.

In family life, the Tekke is absolute possessor of the goods, or the money earned by, his wife, and can at any time and without obtaining a separation discard his wife; but if she is blameless, the Council of Elders of the community to which the woman belongs may force him to give his wife means of support for herself and the children living with her. In cases of infidelity the husband may kill his wife and her lover, and yet not be exposed to prosecution. If, however, he only kills the woman, her relations have cause for a blood-feud against him, and he is often forced to leave the *oasis* or pay a fine.

There are no laws as to the relations between parents and their children, and therefore the murder of a child by its father cannot be punished. But such cases are unheard of amongst the Tekkes, who are very fond of children, and the latter, especially boys, are made much of by their fathers.

To illustrate the matrimonial customs of the Tekkes, we shall relate the romantic death of the Militiaman Nuroff, who, after his desertion to the Tekkes, led a most extraordinary life amongst them.

Ensign Nuroff, of the Daghistán Militia, first arrived in Turkumania in 1877 with General Lomakin's troops, and was attached to a *sołnia* of the Laba Regiment. He was a handsome and well-made young man, and, though badly educated, very ambitious. From the fortress of Chát he deserted to the Tekkes.

In Akhál, Nuroff was received by the family of Nur-Verdi-Khán, and was for some time strictly watched in the *kibitka* of his son, Berdi-Murád-Khán, but very soon he got to be regarded quite as a son. Moreover, Raabi-Guzel, Nur-Verdi-Khán's wife, soon formed an attachment for him, whilst the wife of her own son, Berdi-Murád, regarded him still more tenderly. Berdi-Murád soon guessed what was going on, and sent his rival to his father at Marv, along with Ilánchi-Kurbán, saying to his mother that his father wanted the Russian to be with him. Before starting, Raabi-Guzel charged Ilánchi-Kurbán to preserve the Russian officer from all mishaps and dangers. Along with him, Nuroff reached Askhábád in safety, and there lived with the *Kázi*, talked much about Russia, and gained the favour of all. Not far from Marv, near Kum-Yab, Ilánchi-Kurbán killed Nuroff, and, on his arrival in Marv, said that the latter had run away. Hearing of the loss of her favorite, Raabi-Guzel accused Ilánchi-Kurbán of having killed him, and her husband and son of having given the base orders. Neither Nur-Verdi-Khán nor Berdi-Murád would admit it; but the popular voice attributed it to the latter, as according to public opinion Nur-Verdi was too honourable a man to give such an order, or, if he had given it, would have admitted it. Raabi-Guzel long lamented Nuroff's death; and after entreating first her husband, and then her son, finally succeeded in causing Ilánchi-Kurbán to be forbidden to enter the *oasis* on pain of death. In the end the murderer met with his reward, and was killed in Marv by one of the inhabitants of Kalát. This story well exemplifies the blood-thirstiness of the Tekke men, and the spirit of revenge and perseverance of their women.

The latter are very independent, and have also the right of possessing the land, water, and cattle, which are handed over to them by right of inheritance.

If the head of a family has not during his life made a distribution of his property, at his death his wife receives an eighth of his whole property, his daughters one-third, and the remainder is divided equally among the sons, and in their absence among the other male heirs. If there are no male descendants in the direct line, the heirs of lateral branches of the family receive one-eighth part of the property. If the head of the family has, however, made a distribution of his property during his life, even though not in conformity with established custom, the settlement is always adhered to by his heirs; but if he has only expressed a wish, the distribution may be made according to the above custom.

The Tekke woman apparently is as hard-working as the Tekke man is idle. In the *oasis* all difficult and hard work is performed by the women, as is indeed the case with every warlike people. The men do not even help in pitching the *kibitku*, but leave it to the women. Although good Muhammadans, the Tekke women do not cover their faces before strangers*; and although they do not take a direct part in the councils, they have as much to say in the common affairs of the *auls* as the men. According to Alikhánoff, the voice of Gul Jamál-Khán, widow of Nur-Verdi-Khán, has much more influence in the affairs of the Wakil tribe than that of her step-son, Mahtum-Kuli-Khán.

Tekke custom permits of a woman demanding a separation from her husband; but this is only granted after she has three times proved before the *Kázi* that her husband has ill-treated her. In the first two instances peace is generally made, and the husband is ordered to live with his wife and not maltreat her. But when for the third time the wife asks for a separation, the judge orders persons of trust to be brought, to agree upon the terms of separation, and then gives the woman a written divorce on which are set forth the conditions agreed upon by the witnesses for the husband.

While enjoying great independence and some kind of political rights, the Tekke women are not one whit behind their husbands in courage, as we had frequent opportunities of seeing in our last war. During our unsuccessful attack on Dangil-Tapa in August 1879, the women threw stones and boiling water from the walls upon our soldiers. The presence of a large number of women within the fortress is explained by the wish of the older ones to animate the brave men and shame the cowards. This may be correct or not, but the fact that for 23 days the fortress held out against our attacks, although artillery and small-arm fire was poured on it, with 10,000 women inside its walls, speaks volumes for the bravery and power of fanatical resistance of the Tekke women.

The ceremonies of marriage, burial, and prayers for the dead are very complex, and some of them are highly original.

A proposal of marriage with the Turkumáns, as with all Mussulmán peoples, has its commercial, as well as its religious and ceremonial, side; and the suitor has to give a *kalim* to the father of the bride, the amount of which is fixed by agreement.

The best *kalim* is supposed to be one or two Persians; and to capture these the would-be bridegroom goes on an *alamán*, proving in this way, by the

* They laugh at Sárt and Persian women who do so.—*Author*.

dangers he incurs, how much he loves his future bride. This *kalim* is not paid over in a lump, but by instalments. One-third is first brought, and twenty days after this the young wife returns to her father, and remains with him till the whole has been paid up, or till a second part has been paid, and an arrangement has been made with her parents as to the date when the whole will be handed over. The husband then takes away his wife for good. This delay in the payment sometimes permits of a poor Turkumán marrying the daughter of a rich family, if the latter are fond of him, and allow him to steal her from their house. A Turkumán who has committed this crime and been caught in the act usually goes upon an *alamán*, and brings his unwilling father-in-law a rich present; but in such cases the father has the right of killing the unauthorised kidnapper of his living merchandise. He may do the same to his daughter, who is considered dishonoured, and is treated as a widow, and her loss in market value is thus expressed by a Turkumán proverb—"Though a roundabout way, this is the best way; but though old, a virgin is better."

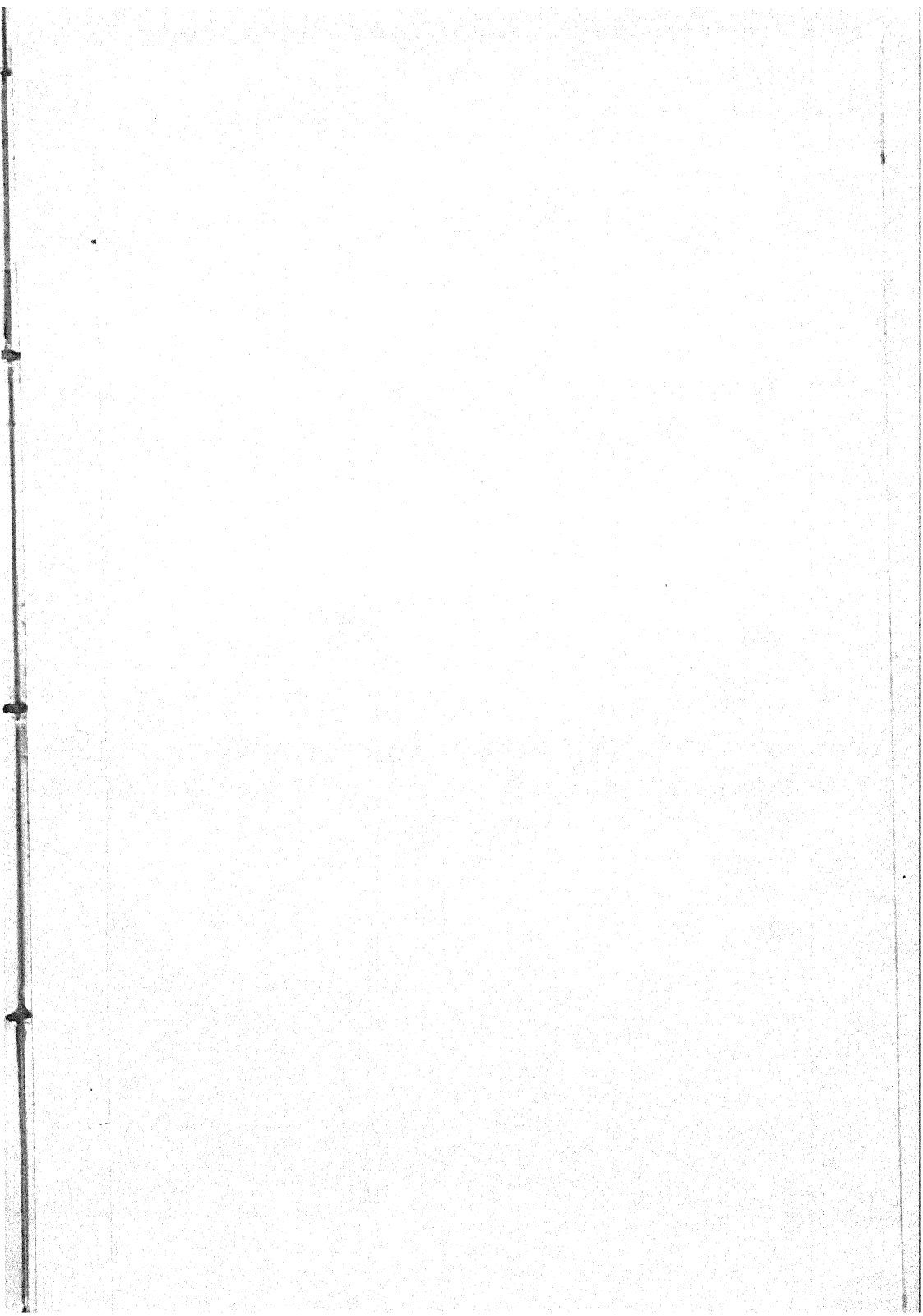
The practical value of the *kalim* is great, as it prevents the Turkumáns from indulging in the plurality of wives, permitted by the Kurán. To take one wife is dear; but to take two is still more costly. A Turkumán, like all Mussulmáns, can have four wives at a time; but each one lives with her own children in a separate *kibitka*. If he wishes to take a fifth, he must persuade one of the four to become a *Sufi* or kind of nun; he must for ever cease to have intercourse with her; and he must proceed in the same way if he wants a sixth wife, &c. Besides wives, a Turkumán may have as many concubines as he pleases from among his slaves.

Notwithstanding their low degree of civilisation, there is a noticeable tendency to aristocracy among the Turkumáns, and a loss of caste by an unequal marriage is very seldom heard of.

For example, a Turkumán of the Tekke, Sárík, Arsári, Salór, or Yamút tribes chooses a wife out of his own tribe, and would never give his daughter in marriage to a member of any of the other tribes. The first four are very strict as to this rule, all the more so as they live close together; but a Yamút sometimes marries a Chádar. The smaller tribes try to imitate the larger ones, and marry in their own tribe, except in isolated cases. The Chádars try to get bribes, if they can, from the Tekkes, Sáríks, or Arsári, but especially from the Tekkes of Marv, whom they consider the bravest and most powerful of all the Turkumán tribes. The Turkumáns seldom marry Uzbek women, as they do not wish to unite themselves with a diluted nation, and, besides, the Uzbek women are much more corrupted in their morals and covetous than are the Tekkes.

The "Sayads," who consider themselves the descendants in a direct line from Muhammad, carry this aristocratic feeling to an extreme degree. Their pride forces them to give their daughters only to men of their own race in marriage; and only Turkumáns who are distinguished for their learning and knowledge of the *shériat* can hope to wed these high-born maidens, and that only very seldom. The ravishing of the daughter of a Sayad by a Turkumán is considered a crime of the deepest dye, and in such cases the relations inflict a most cruel punishment on the ravished woman. They kill the ravisher; and if they find him outside the *aul* have no fine (*kun*) to pay, but if they slay him in the *aul*, they have to pay a fine to his relatives.

Blood feuds are common among the Tekkes, and the relations of a murdered man are bound by custom to kill his murderer. If the murderer escapes,





TEKKE AUL IN THE DESERT.



he remains for two years outside the territory of his tribe; but after that the *Kázi*, for a certain remuneration, makes peace between the murderer and relatives of his victim, the former paying to the latter a sum of perhaps 2,500 *roubles*.

All Turkumáns are remarkable for their great height and athletic physique, and badly grown or sickly men are seldom seen. This may be explained by the hard life led by these nomads and the absence of all luxuries, from which causes most sickly children die before attaining maturity.

In Turkumania, malignant fevers frequently prevail, and find many victims among the population, especially on the Atrak and Gurgán. Another scourge of the Turkumáns is small-pox, which, with their peculiar style of living, is generally fatal. They fear it so much, that any one attacked with it is usually taken away about a mile from the *aul* and his *kibitka* sent after him; water and some cakes are given to him, and he is left there, without any help or attendance, to die. The epidemic diseases are a *Kára-Jás* (the black sickness), the symptoms of which are pains in the head and loins; these terminate either in death, when the whole body becomes black, or else in recovering after violent perspiration and bleeding at the nose; and *Mirgi*, a kind of cholera, which, according to popular belief, is periodical, and appears once in thirty years. On the appearance of this disease, which sometimes rages on the Tajand and in Akhál, the inhabitants usually fly from their homes, and betake themselves to the very edge of their *oasis*.*

Scurvy also sometimes appears among the Turkumáns, and syphilis is also sometimes brought from Khiva; but the climate of Turkumania is favourable to the cure of this disease, and it seldom has any serious consequences. Eye-diseases are also common, on account of the unhealthy density of the population, the smoke in the *kibitkas*, the wind, and the dust.

The Turkumáns, both settled and nomad, live in *kibitkas*, consisting of a wooden framework with a cupola on the top, the whole being covered with felts.

The wooden framework is about 5 feet in height and 16 or 17 in diameter. It consists of six separate parts, tied together with string; and the cupola above this circular wall is formed by a wooden upper ring in which are fixed thin rods, the lower ends of which are fastened to the frames of the wall of the *kibitka*. Over this framework are placed felts, which are fixed by ropes and strings. Instead of a door, an opening is left in the wall, and covered on the outside by a special felt. The Turkumán *kibitka* is much lighter than that of the Kálmaks, as its round cupola is much lighter than the conical one used by the latter; the framework of the walls is not so close, and the felts are thinner.

To steady it in the high winds which rage on the steppe, ropes are fixed round the upper part of the *kibitka* and fastened to pegs, which are driven into the ground to windward, or sometimes simply tied to stones.

The interior decoration of a *kibitka* is confined to carpets and *mutaks*,—cushions of cylindrical form known by this name all over the East. Carpets are hung up on the inside of the framework, and where the cupola begins, a fringe about a foot broad is hung up. This fringe, on the adornment of which rich Turkumáns pride themselves, forms a sort of cornice, and actually gives a picturesque aspect to the interior of a *kibitka*. Felt carpets of a dark colour are spread on the ground inside the *kibitka*. They are

* Alikhánoff's manuscript, *Marv, and the roads leading thereto*.—Author.

embroidered, and may be distinguished from the ordinary wall-felts by their greater thickness.

The Tekkes have sometimes clay huts; but they prefer to live in *kibitkas*, and only poor people, who cannot afford a *kibitka*, live in them. With rich families, their huts (*sakliya*) are used as corn-stores and cattle-sheds.

The ordinary food of the Turkumáns is the *pillau* of rice and mutton with sesame oil common all over the East, and also boiled mutton.

They too make cakes of wheaten flour, which are baked on by being stacked to the walls of a clay oven.

The Turkumáns have to content themselves with very scanty fare when on their raids, but at other times are great gluttons, and never lose a chance of eating enough for four, when they can. They never use strong drinks, but are very fond of tea and sweet juices, and their disregard for the quality of the water they drink is wonderful. For example, in 1870, at the well of Kurt-kuyu, not far from Balkhán Bay, our troops found bitter water, the surface of which was covered with insects. The Cossack horses refused it; but the Turkumáns first drank it themselves, and then watered their horses from it, after which the water became sufficiently clear for the Cossack horses to drink.

The costume of a Turkumán consists of a *khalat*, several of which are in cold weather worn above one another. These garments are made of cotton of a brick-red hue and usually striped, or of wool of a dark-yellow colour and home made; or of silk and cotton mixed, brought from Khiva, or lastly, of good cloth; but the latter are only worn as holiday dresses. The *khalat* is gathered in by a broad woollen or cotton sash, in which is usually stuck a sheathed knife. Under the *khalat* is worn a long shirt reaching to below the knees with wide sleeves, made of chintz, white cotton or silk; wide trousers complete the costume. Boots with pointed toes are worn when mounted; but in the house shoes or sandals are used, the latter consisting of leather soles kept in position by woollen bands. On the head is worn a skullcap, an indispensable thing for a shaven crown, and a huge oval-shaped sheepskin hat.

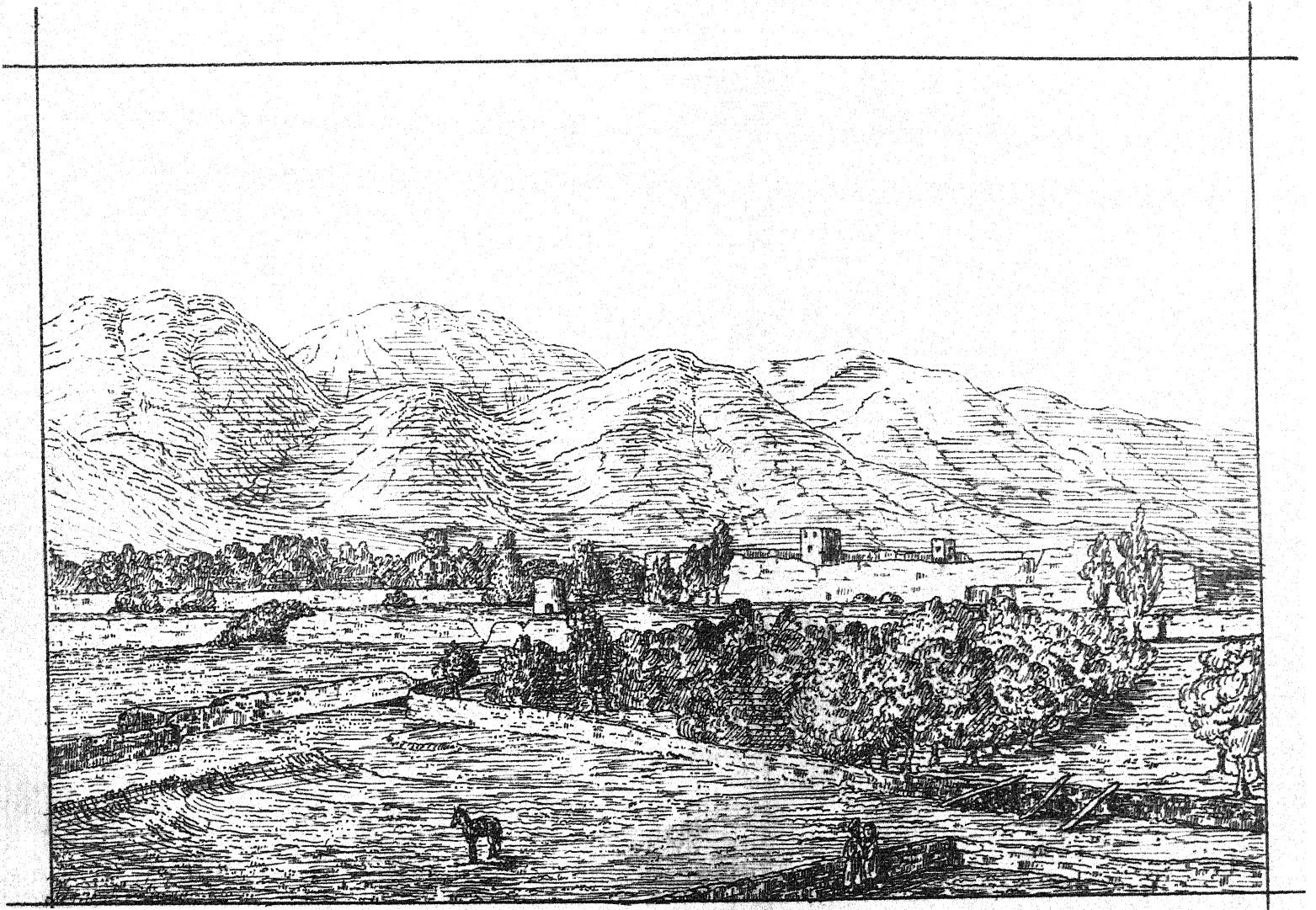
To European eyes there is no difference between the dress of the various tribes, as all wear the same *khalats* and the same shaped head-coverings. But at the first glance Turkumáns can tell a man's individuality or to what tribe he belongs by distinctions imperceptible to our eyes, such as the way he fastens his sword, wears his hat, crosses his *khalat*,* ties his sash, &c., &c.

The dress of a Tekke woman consists of a chemise of red fustian or silk longer than that worn by a man, trousers, and the *khalat*. The head is covered with a coloured handkerchief, the ends of which hang, with her tresses of hair, down her back. When outside, the women throw over their heads embroidered *khalats* (*burenjiks*) of coloured silk. They wear bracelets and anklets of silver set with turquoises and cornelians, and very massive silver belts and necklaces, the latter consisting of a heavy collar, to which are fastened by little chains a number of silver and gold plates of metal, which descend over their breasts.

As all such expensive female ornaments have usually been looted in Persia, the number of them worn by a woman serves as an indication of the military prowess of the family.

In winter both men and women wear sheepskins over the *khalat*.

* As with Hindus and Mussulmáns in India.—J. M. G.



VILLAGE OF BAGIR IN THE AKHAL-TEKKE OASIS.



BEKKE OASIS.

The women's boots are the same as those of the men.

Except when engaged in conferences or raids, the men lead a completely lazy life. They are fond of talking about the news (*khábar*) or about politics and of playing chess, in which they display great skill and surprising quickness. Their desire for news and gossip is so strong, that a Turkumán will frequently ride 20 or 30 miles across the desert to ask for reports and rumours from the neighbouring *auls*. Therefore the Turkumán desert, in spite of its scanty population, can by no means be called an ignorant country, and news of passing events is quickly carried from *aul* to *aul* by well-mounted horsemen.

Though frank and even boastful among their own people, Turkumáns are very careful in what they say before strangers; and though they do not refuse to answer questions, their answers are so guarded, that the questioner remains as much in the dark as ever. The collection of information as to their manners, customs, and way of living, and especially the gathering of statistical data, is therefore very difficult.

Lieutenant-Colonel Spolatbeg points out this characteristic of the Turkumáns, and in his daily intercourse with this people he had every opportunity of observing it. According to him, Tekkes never bear false witness; and in their law-courts or public assemblies never deny facts, and even crimes which they have committed. In defending himself, an accused man always tries to exculpate himself in some other way by pleading a cause for the crime or complaint against some one. False accusations are therefore altogether unknown, and no one dreams of disputing a man's right to kill any one slandering him.

Stealing from one's own people is considered an infamous crime; and such criminals are put to death by order of the Council.

The Tekkes love money, but less as a means of life than as a metal which gives them the appearance of being rich.

Hospitality is considered a holy duty; and every guest, of whatever nationality or religion, may be assured of the safety of his life and property, once he is under the roof of a Tekke. It is considered a great crime if a Tekke leaves to die or does not defend any one, even though unknown to him, who comes to him as a guest.

The Turkumáns speak the Jagatai dialect of the Tartar language, but with some peculiarities of pronunciation. Thus for example, the sound of the letters "*ts*" is heard sometimes,—a sound quite foreign to other Tartar dialects. This peculiarity shows that their tongue has not yet escaped the influence of the Mongol language. The Tekkes speak more purely than others, and hardly ever use the sound "*ts*." Only the Mullahs, who have been educated in Khiva or Bukhára, understand how to read and write.

They preserve their history only by tradition, and know some details also of the history of the Kálmaks, the struggles for the throne of Khiva, the times of Nádir-Sháh, the expedition of Bekovitch-Cherkasski, &c., &c.

Of Russia, the Tekkes had, up to the date of their subjugation, most original ideas. They thought it the greatest and most powerful of countries, inhabited, however, by a corrupt people. A Russian was called by them "*Kára-Giaur*," or "*an infidel of bad religion*," in contradistinction to an Englishman, or "*Mussulmán-Giaur*," that is, a heretic with a more enlightened religion, nearer to that of the Mussulmán. They thought that it was always winter in Russia, and that to see the summer, the Russians came to Muhammadan countries, conquered them, and killed all their inhabitants. According to them, marriage and family life were unknown amongst the Russians, and their soldiers

were bred from herds of women, from whom were born well-made, powerful, and brave men. They thought too that other Russians went to the house of any woman they pleased, and, planting a stick before the door, hung their cap on it to show that the place was occupied.

Such is Turkumania, and such are the Turkumáns, according to all the information gathered up to date of this original people.

But our interest in their ethnology, history, and philology must be as great as that in the geography and geology of the country inhabited by them.

We see here the development of civilisation at the stage when a settled life begins to be possible and ideas of land-tenure begin to be formed, but when men still prefer war and plunder to peace and labour, and leave all home cares and daily drudgery to the women.

At this stage of its historic development Turkumania has fallen into our power, the characteristics of which is, as Vámbéry so clearly puts it—"Up to this day the footsteps of the Russians on Asiatic soil have never been directed backwards, *i.e.*, from south to north."*

It is difficult to say what the Turkumáns will do under our rule in the future, but the suppression of the raids, to which half the population owed their livelihood, cannot but act prejudicially on their numerical increase.

The *Oases* of Turkumania are but ill-supplied with water, and cannot support a large population, as has been shown by the occupation of Marv by the Tekkes and of the skirts of the Paropamisus by the Sáriks. And therefore, without pretending to foretell definitely the fate of the Turkumáns, we may with certainty conclude that Russian rule will make most real and radical changes in their mode of life, and make them acquainted, in spite of their proverb, with the shade of trees and the shelter of authority. The immediate result will be the pacification of the Turkumáns, as they will be unable to wage war and forced to work. After that it is very probable that part of them will emigrate to Bukhára and Afghánistán, where, sooner or later, Turkumáns acquire settled habits. Those who remain, giving up their own fruitful lands to a newly-arrived and hard-working population, will soon assume the type of our Kálmaks and Kirghiz, and lead the life of nomad shepherds on the boundless steppes.

Concluding now our description of the newly-conquered country and its people, we shall next sketch briefly the history of Russian operations in Turkumania, preceding the late expedition of General Skobelev in Akhál-Tekke.

* Vámbéry, *History of Bukhára*, Vol. II, p. 196.—*Author*.

CHAPTER II.

RUSSIAN OPERATIONS IN TRANS-CASPIA UP TO THE YEAR 1879, INCLUSIVE.

THE first relations of Russia with the Turkumáns date from the reign of Peter the Great, in which, during Prince Bekovitch-Cherkasski's campaign against Khiva, two forts were constructed by us on the east coast of the Caspian Sea, in the Gulf of Tub-Karagán and at Krásnovodsk point. The Turkumáns helped in the formation of these, the first settlements on their shores, and furnished Bekovitch with means of transport, &c.; but after the unfortunate campaign of 1717, both these forts were abandoned by us.

In 1745, 1767, and 1798, the Turkumáns of Mangishlák sought to become Russian subjects and desired forts to be built in their territory. In 1800, fearing the attacks of the ambitious and aggressive Khán of Khiva, they renewed their request to be received as our subjects, and at last attained their end. Representatives of the Turkumán tribes appeared at Orenburg and swore fidelity, and in 1803 the Elders of the Turkumáns presented a petition for the establishment of commercial relations between them and Russia, "at the three places designated by Peter the Great," where mosques for the Turkumáns were also to be built. Orders were accordingly issued for these places to be reconnoitred, and in 1805 an Engineer was sent to Cape Tub-Karagán and the mouth of the Emba, with orders to construct forts at these points. These orders were, however, never fulfilled, as the Commander-in-Chief of the Army of the Caucasus, Count Gudovitch, thought the moment an unpropitious one for interfering in Turkumán affairs, as, besides the expense of the scheme, the construction of forts on the east coast of the Caspian would necessitate the detaching of a large number of troops from the Army of the Caucasus.

The wars between Russia and Persia at the beginning of the present century also directed the attention of our Government to the Yamút-Turkumáns, who nomadised along the south-east coast of the Caspian. These Turkumáns had suffered much from Persian oppression, and were not slow in taking advantage of the diversion of the Persian troops for the war against Russia to commit most frightful ravages in the neighbouring Persian provinces. In 1813 the Commander-in-Chief in Georgia, General Rtishcheff, sent Iván Petroff, an Armenian of Astrakhan, to enquire whether they had actually separated themselves from Persia, and were willing to co-operate with Russia. Petroff's mission was a success, and he returned with a letter from their Khán, and accompanied by three deputies, at the very time that a Persian plenipotentiary had arrived in General Rtishcheff's camp to treat for peace. The Commander-in-Chief received the deputies with honour, and promised them the protection of Russia, but at the same time pointed out that, in the event of peace being concluded between Russia and Persia, the former power could not support them in their pretensions to independence of Persian rule. The news of the arrival of Turkumán deputies in the Russian camp and of the measures taken by Rtishcheff to organise a Turkumán descent on Persian shores, if peace was not at once made, forced the Persian plenipotentiary to become more yielding and to conclude a peace, which soon afterwards was signed at Gulistán. The Turkumáns were much discontented with this turn of affairs, and had to cease for some time their hostilities against the Persians: a number of them, to avoid the oppression

of the latter, migrated northwards and settled near the shores of Balkhán Bay.

The Mangishlák Turkumáns, seeing no steps taken for the construction of Russian forts to protect them from the inroads of the Kirghiz, gradually submitted to the Khán of Khiva, and imbibed sentiments of hostility against us.

In 1819, the new Commander-in-Chief in the Caucasus, Yermoloff, recognised the utility of renewing relations with the Turkumáns with a view to creating a trade line through their territories to Khiva, Bukhára, and Northern India, and proposed to construct a harbour on the south-east coast of the Caspian, with storehouses for merchandise. The Government, which was at that time engaged in searching for means of increasing Russian political and commercial influence in Central and "Upper" Asia, authorised Yermoloff to fit out two expeditions, one to examine the east coast of the Caspian and endeavour to establish relations with the Turkumáns, and the other to make arrangements with the Khán of Khiva not to send caravans from his territory to Astrakhan by Mangishlák, where they were frequently plundered by the Kirghiz, but to some point to be chosen more to the south to which a safer caravan route could be selected.

The mission to the Turkumáns was entrusted to Major Ponomareff, and that to Khiva to Captain Murávieff. Both officers went together to the east coast of the Caspian, and in the course of the year 1819 surveyed the whole of it from the River Gurgán to the Bay of Balkhán, coming to the conclusion that the best place for the construction of a trading factory and a fort would be a point on the shore of the Bay of Krásnovodsk. The negotiations with the Turkumáns led to a declaration by the latter, on the advice of the Elders of the Yamút clans nomadising on the Atrak and Gurgán and the Bay of Balkhán, that "they would agree to all measures taken by the Russians, and put no obstacles in their way," and deputies with assurances of good faith were chosen, to be sent to Yermoloff.

The mission to Khiva did not succeed in inducing the Khán to send his caravans to Krásnovodsk; for, as he stated, although the road by Mangishlák was longer, it was all through the territory of nomad Turkumáns subject to Khiva, while on the road to Krásnovodsk, Khivan caravans would be exposed to the attacks of the Yamúts, who were subjects of the Kájars.*

In consequence of the above-mentioned declaration of the Turkumáns, Yermoloff decided to construct a fort on the Bay of Balkhán which would be of use not only as the terminus of a trade-route to Central Asia, but also as a *point d'appui* in case of a war with Persia or of operations against Khiva or Bukhára.

In 1820, Yermoloff was ordered by Government to assure the Turkumán deputies that Russia desired to maintain friendly and commercial relations with them, as with any other free people, and at the same time he was directed to fit out a second naval expedition for the purpose of making a detailed survey of the east coast of the Caspian, and especially of the Bays of Kindarli and Krásnovodsk. The command of the expedition was given to Colonel Murávieff, who, in the course of his voyages in 1821, made an instrumental survey of Balkhán Bay with its islands and Krásnovodsk promontory, and also explored the Balkhán Hills, but could not visit Kindarli Bay on account of an outbreak of sickness amongst his crew. The site for a fort at first chosen by Murávieff was on the promontory of Krásnovodsk, close to which

* The reigning family of Persia.—*Author.*

is a good harbour; but as the water in this place turned out to be "not of the best quality," the construction of a fort here was put off on account of the danger of the water having a bad influence on the health of the garrison.

In 1832, an expedition was fitted out in the Orenburg district to examine the north-east coast of the Caspian Sea, where our fishing trade required protection. In order to coerce the Kirghiz and prevent their brigandage, it was finally decided to build a fort on the east coast, and in 1834 Fort Novo-Alexandrovsk was constructed on the shore of the Gulf of Kaidak. But the choice of a site was unfortunate from a hygienic point of view, and besides the position of the fort did not allow of pirates being properly observed and trade protected.

As a means of protecting our trade on the Caspian, the Government tried to establish commercial relations with the Turkumáns living on its east coast as far as the Gulf of Astrábád, by interesting them in making large profits; and with this view there was formed in 1836, on Kankrin's proposition, the exploring and trading expedition of Karelin and Blaramberg. The Yamúts, who nomadised between the Bay of Balkhán and the Persian frontier, willingly entered into close commercial relations with Russia, and moreover requested to be taken under Russian protection. The most favourable point for the establishment of a fortified factory appeared to be the Island of Ashuáda.

Almost simultaneously with the request of the Yamúts, the Turkumán tribes living on the Ust-Yurt and in Mangishlák applied to be recognised as Russian subjects; but the Government, wishing to establish trade with all the tribes of the littoral, decided not to accept their offer of a subjection, which would only be nominal. It was decided to send "a qualified man to ascertain the wants and wishes" of the tribes of the Ust-Yurt and Mangishlák, but nothing came of this.

However disinclined we might be to accept the responsibility of keeping order in the south-east part of the Caspian Sea, the force of circumstances soon compelled us, in spite of our former refusal, to take the Yamúts under Russian protection. Our commerce with Persian ports, and the fishing trade carried on by our subjects in the Bay of Hassan-Kuli, suffered so severely from Turkumán pirates, that, at the beginning of the year 1840, we were obliged to take measures to repress this evil. In December 1840, orders were given for the despatch of a man-of-war to the Persian coast to watch the Turkumáns, and in 1842, on the occasion of the proposed construction by the Persian Government of a fort on the Island of Cheleken, a squadron was sent to cruise in the Gulf of Astrábád and along the Turkumán shore. From this time, a constant watch was kept by us over the safety of our sea trade in the southern part of the Caspian, and the Turkumáns, who at first had shown a spirit hostile to our measures taken to protect trading ships from their piracy, had soon to submit to the special rules laid down for the free passage of boats into the Gulf of Astrábád.

The yearly fitting out of ships of the Caspian flotilla, was as important for our own interests as for those of the Persian Government, and necessitated a choice being made of some point as anchorage for the cruisers, and as a factory and temporary depôt for the goods of merchants trading with Persian ports. Accordingly in 1841 the Island of Ashuráda was so chosen.

The system of cruising in the southern waters of the Caspian gave good results; Turkumán piracies became of rare occurrence in the year 1850 and the Turkumáns took care to send back all prisoners captured

even by their own fellow-tribesmen. On the other hand, the Persian Government was indebted to our stations for the fact that many of its subjects who were taken prisoners, both on land and sea, were subsequently set free. It, therefore, fully recognised the benefits of the presence of our ships in the Gulf of Astrábad, and it maintained the most cordial relations with the Russian naval stations.

Our position on the north-east coast of the Caspian became, in the year 1850, even more secure than that in the southern waters. The fort of Novo-Alexandrovsrk was transferred in 1846 from the Gulf of Kaidak to Cape Tub-Karagán, where it was able to protect much more efficiently our trade and fisheries from Turkumán pirates. The new fort was called Novo-Petrovsk, which name was in 1857 changed to Fort Alexandrovsk.

In 1858, proposals were again made to enter into closer trading relations with the Turkumáns of the south-east littoral, and a company, formed by Benardaki for working the fisheries, asked permission to construct a fortified factory in a suitable position. This led to a large exploring expedition, under Colonel Dandeville, being sent to survey the east coast of the Caspian. During 1859 this task was carried out with complete success, a mass of information was gathered as to the littoral, a map was made, and a point in the Gulf of Krásnovodsk selected for the factory. The construction of a permanent port there had, however, to be postponed; and it was only ten years later that it was begun.*

In 1859, Ata-Murád, Khán of the Khivan Yamúts, who was then waging war against the Khán of Khiva, applied to us for help, and, though unsupported by us, succeeded in conquering almost all the northern part of the Khánate. Considering himself unable to retain the possession of the town of Kangrád, he offered to hand it and the Amu delta over to us, but his offer was refused. Having afterwards lost Kangrád, he still continued to hope for help from us, and again asked for aid from Russia. On the other side, he was carrying on hostilities against the Tekkes, and desired Russian assistance against them also. With these ends in view, he wanted a Russian settlement to be formed on the shores of the Bay of Balkhán, and in his petition to the Emperor, handed over to the Orenburg authorities in 1865, he wrote: "We unfortunate people are constantly prisoners of one master or another. The nomads have neither order nor discipline. A Tsár cannot be made out of a Turkumán any more than wood out of iron. Prayers to God and the Prophet are useless, as the predestined time has not yet arrived. Our only thought now is—Will an order be sent down from God that we are to be made subjects of the Great Monarch? Our only dream is that a Tsár will come from the direction of Shagadam,† who will build a town and found a market, which will be the point of union of all the Turkumán tribes, his true friends and subjects. We hope for grace in the sight of the Emperor, and will not only give ourselves over to him in this world, but in the next also if he requires it." The envoys who brought this letter were received and entertained, but the Russian Government confined itself to a general promise of readiness to co-operate with them, and endeavour to protect the trade between the Turkumáns and our Kirghiz. As for receiving the submission of Ata-Murád and his Horde, our Government declined to give him a decided

* "*Materials for the history of the Khivan campaign of 1873. A sketch of the military and diplomatic relations of Russia in Central Asia.*"—(A. SHEFELFF.)—*Author.*

† The name of the wells near which Krásnovodsk is built. The Turkumáns to this day call Krásnovodsk Shagadam.—*Author.*

answer, saying that, as we had several times declared in our dealings with nomads in Asia, assistance and protection could only be afforded by Russia to people living within its frontiers.

In 1867, the Laudán Canal, which flowed through the pasture grounds of Ata-Murád's nomad Turkumán camps, was closed by order of the Khán of Khiva, in consequence of which they were left without water for irrigation. Some of the Yamút Elders then submitted to the Khán, but others, led by Ata-Murád, refused to do so, and made a plan to destroy the dam on the Laudán. But hardly had they begun this work, when they were attacked and beaten off by the Khivan army. Ata-Murád migrated to the Bay of Balkhán, and when our troops occupied Krásnovodsk in 1869, he was the first to offer his services to us.

The proposition for the occupation of Krásnovodsk, approved of by the Emperor in 1859, could not be put into execution at the time on account of our strained relations with Persia.

The question as to the most advantageous occupation of the east coast of the Caspian Sea and the opening of trade relations with the Turkumáns was inquired into by a Committee acquainted with the subject.

In 1865 the following programme was worked out after an examination of all sides of the question:—(1) the Bay of Krásnovodsk to be occupied as a temporary measure till experience shows whether it is worth occupying permanently, the question to be definitely decided in 1866; (2) all arrangements to be made by the authorities of the Caucasus; and (3) on the final occupation of Krásnovodsk, all arrangements connected with it to be handed over to the Orenburg Government, so as to concentrate in the hands of the latter all affairs connected with the Central Asian Khánates. In consideration, however, of the state of affairs in Central Asia, it was decided to put off the fulfilment of these plans till a more convenient season, and in the meantime to encourage private persons to enter into friendly trading relations with the Turkumáns.

Our swiftly following successes in Central Asia, between 1864 and 1869, completely changed the position of affairs in the valleys of the Sir and Amu; Khokand was cut off from Bukhára by the latter losing Sámarkand. There only remained the Khánate of Khiva still intact, and, exalting in its successes over the Russians in 1717, and 1839, its Khán was using every means to retain on its side not only the Turkumáns, but also the Kirghiz of Orenburg, and in 1869 he began open hostilities against Russia.

At this time Shere-Ali-Khán, the Ruler of Afghánistán, under the protection of the East Indian Government, was trying, according to reports in Turkistán, to form a coalition of Central Asian princes with a view to opposing the advance of Russia. Bukhára rose in rebellion, the Khán of Khiva sent troops to the Russian frontier, insurrections began in the Orenburg Steppe, and the state of affairs in Central Asia assumed a threatening aspect for us. It became necessary to at once paralyse this species of confederacy of Mussalmán princes, to separate the Turkumáns from Khiva, and show a threatening front against the latter.

It was, therefore, decided to occupy Krásnovodsk, in the spring of 1870, with troops from the Army of the Caucasus, and in the autumn and winter of that year to make preparations for an expedition. At the same time our ambassadors at Teherán and London were informed in detail of the reasons compelling us to occupy a fortified point on the east coast of the Caspian. On the 16th (28th) August 1869, however, the Commander-in-Chief

of the Army of the Caucasus represented to the Emperor Alexander II. that it was necessary to occupy Krásnovodsk in the autumn of that year, and not wait till the following spring.

The Emperor agreed in the advisability of this course, and ordered the expedition to be undertaken in October 1869, and a notification to be made to the Persian Government of the reasons for the occupation of the Bay of Krásnovodsk, which had no character of hostility towards Persia or the Turkumáns living on its frontiers. In accordance with this order, an expeditionary force of 1,000 men (1 battalion, $\frac{1}{2}$ *sofnia*, 2 horsed and 4 unhorsed guns) was formed at Petrovsk under Colonel Stolaitoff, of the General Staff.

His instructions were to seize and occupy the most suitable point on the shore of the Bay of Krásnovodsk for a trading factory, to gather as accurate information as possible regarding the country lying to the east of the littoral and along the routes from Central Asia to Krásnovodsk, to acquaint himself with the state of trade on those routes, and lastly, to form the nucleus of a trading settlement of Turkumáns. At the end of his instructions it was expressly stated that all measures and decisions taken by him which could in any way provoke an armed resistance of the population would be considered in direct opposition to the spirit of the Imperial Order.

To confirm the peaceful basis of our first expedition to Turkumánia, Colonel Stolaitoff was furnished with sums of money for the hire of camels and horses from the local population, for receiving and entertaining the Elders, and for sending trustworthy persons into the interior of the country, &c.

The troops were all concentrated at Petrovsk by the 23rd October (4th November) and the last preparations in Astrakhan were completed on the 25th idem (6th November), but unfavorable weather prevented the troops from embarking till the 28th October (9th November). The embarkation was completed on that day, and on the 29th October (10th November) the whole expedition, in four schooners, sailed for Krásnovodsk Bay, where it disembarked on the 5th (17th) and 7th (19th) November in Muravieff's Bay.*

In the beginning of 1870 Colonel Stolaitoff conducted a reconnaissance of the Great Balkháns, which convinced him of the advantage of moving the greater part of his troops to Tásh-Arvat-Kala. Here in the centre of the summer pasture grounds of the Yamúts, Colonel Stolaitoff thought that our troops could by their presence cover the Bays of Balkhán and Krásnovodsk and the caravan route from the Balkháns to Krásnovodsk, keep the Yamúts in check, threaten Khiva, and protect the caravan trade throughout the territory between the Caspian Sea and the Amu. To carry out this project, Stolaitoff asked for a re-inforcement of two companies, $1\frac{1}{2}$ *sofnias* of Cossacks, and four guns. At the same time, in case of accidents, a reserve was formed of troops lying near Baku and Petrovsk sufficient to bring up his total force to 6 battalions and 4 *sofnias* of Cossacks.

On the completion of the reconnaissance of the Great Balkháns, engineering *matériel* was sent over to the troops of the Krásnovodsk force to enable them to form a simple camp at Muravieff's Creek in such a position that if the greater part of the troops were sent beyond the Balkháns as proposed, it would form a good defensible post on the sea-shore.

The insurrection in Mangishlák, which necessitated the despatch of one of the *sofnias* from Krásnovodsk on special service, at once deprived the troops at that place of the services of a large proportion of the means of sea transport at the disposal of the Caucasus Staff, and caused Stolaitoff to put off his advance

* "The Krásnovodsk detachment, 1869-70," *Voyenní Sbornik* of 1871.—Author.

to Tásh-Arvat-Kala till the end of July. The advance was carried out partly by aid of ships sailing up the Gulf of Micháelovsk and partly by land on the north shore of the Bay of Balkhán, with camel transport hired from the Yamúts. In the beginning of August, Tásh-Arvat-Kala, the Micháelovsk post at the head of the Gulf of Micháelovsk, and the wells of Mulla-Kári were occupied. Communication with Krásnovodsk was kept up by the road to the Micháelovsk port by Mulla-Kári and thence by sea. A service of Government transport by camels was organised to carry supplies to Mulla-Kári and Tásh-Arvat-Kala.

The position at Tásh-Arvat-Kala, which had seemed so good at first, was unfortunately chosen, and scurvy soon began to show itself amongst the troops. The towing of barges on the Gulf of Micháelovsk by Government steamers was also difficult on account of the constant breaking down of their engines, and the transport boats sent for this purpose were completely unfitted for the work, as their boilers and engines were constructed for working with fresh and not with sea water, such as that of the Gulf. Supplies, therefore, were not brought up punctually, and at the end of 1870 it became evident that it was impossible to keep the troops in their new position.

At the time of the occupation of Tásh-Arvat-Kala, the following was the state of affairs in the neighbouring districts of Turkumánia: the Jáfárbai were tolerably friendly to us; but, on the other hand, the Ak-Atabai refused to have any dealings with our people, and sent to the Tekkes to enquire how they were to behave towards us; lastly, the Tekkes, who were subjects of the Khán of Khiva, began to rise against us.

To put an end to this uncertain state of affairs, and to show the natives of the country that nothing was impossible for Russians, Colonel Stolaitoff, with the consent of our ambassador at Teherán, resolved to undertake an expedition to the Atrak Valley. While preparations were being made, however, the Tekkes attacked the Micháelovsk port at dawn on the 20th October (1st November) but were beaten off, with a loss to us of 3 killed and 4 wounded. On this occasion we find the first mention of Taghma-Sirdár, who was one of the attacking party.

The attack on the Micháelovsk post caused Stolaitoff to give up his expedition to the Atrak, and to prepare for an advance on Kizil-Arvat in the Tekke *Oasis* to punish the Tekkes, and gather information about their country. The column, consisting of 290 bayonets, 2 *sołnias* of Cossacks, 3 guns, and 670 camels laden with 20 days' forage and provisions,* advanced from Mulla-Kári on the 30th November (12th December) and on the 10th (22nd) December reached Kizil-Arvat which had been abandoned by its inhabitants. During their advance, the troops had not seen a single Turkumán, and at Kizil-Arvat only one Tekke was killed and one taken prisoner. On the 12th (24th) December the column commenced its return march and on the 20th December 1870 (1st January 1871) reached the Balkháns.

In reporting on this expedition, Stolaitoff pointed out that the road from Micháelovsk by Kizil-Arvat to the Tekke *Oasis* was the shortest route to Khorássán, or, avoiding it, to Afghánistán.

In the beginning of 1871, the hostile intentions of the Khán of Khiva towards us became evident, and in consequence the question of an attack on the Khánate was examined by the Council of Ministers, who determined not to proceed at once to decisive measures, but at the same time to take advantage of

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the presence of our troops in Turkumánia, to reconnoitre the roads (1) from Krásnovodsk to Sári-Kámish, with a view to troops moving along it on Khiva if circumstances should require it, and (2) to examine the country near the mouth of the Atrak, which soon would have to furnish us with means of transport for further campaigns. On the conclusion of both reconnaissances it was decided to abandon the position in the Balkhán Hills, and concentrate the troops at Krásnovodsk.

In 1871 the Turkumáns continued their hostile bearing towards our troops at Krásnovodsk, and only a very small number of them performed any services for us. In the beginning of February, the Khivan Yamúts fell upon the *auls* of the Turkumáns, from whom our transport was hired, and carried off a flock of sheep and 660 camels, principally females, and the head of the band proclaimed to the Turkumáns that the Khán of Khiva had promised to pay as much for their heads as he paid to the Kirghiz for the heads of Russians. In consequence of this, almost all the Turkumáns migrated to a distance of 100 miles from the Russian camp, and, fearing a repetition of the pillaging, broke off all connection with the Russians. This fact caused the Krásnovodsk force to suffer from want of camels.

In order to reconnoitre the routes from Tásh-Arvat-Kala to Sári-Kámish, close to the Khivan *Oasis*, Colonel Stolaitoff sent Staff-Captain Skobeleff, who with three Cossacks and three Turkumáns reached the well of Uzun-Kuyu and made a route-map, having traversed 506 miles both ways. This reconnaissance showed the possibility of a small force marching by this route to the Khivan *Oasis*.

By May 1871, it had become evident that, in consequence of the hostility of the Khán of Khiva, the idea of organising a regular and safe caravan route from the east coast of the Caspian Sea to Khiva and of establishing commercial relations with the Turkumáns was impossible. Nur-Verdi-Khán went to Khiva, where the Khán promised to help him if he would attack the Russians, and also promised to give back the camels to the Turkumáns who had assisted our troops, if the latter would migrate to the wells of Igdi. On receiving these promises, the Tekkes informed the Jáfarbai that they would immediately attack them if they tried to nomadise within the *rayon* of the influence of the Russian troops. At this time the Commander-in-Chief of the Army of the Caucasus had decided to evacuate all the points held by our troops on the east coast of the Caspian, and to hold Krásnovodsk only, as the maintenance of the garrisons on the Gulf of Micháelovsk and the places dependent upon it, Tásh-Arvat-Kala and Mulla-Kári, was very costly, and moreover badly assured by the absence of proper means of sea-transport. Besides evacuating the other points, he proposed to maintain at Krásnovodsk only a small garrison of two companies of infantry, one *sołnia* of Cossacks, and two horsed and six unhorsed field guns; but, on the proposal of Colonel Stolaitoff, the carrying out of these measures was postponed till the autumn of 1871.

In the meantime Colonel Stolaitoff was removed from the command of the troops at Krásnovodsk and replaced by Lieutenant-Colonel Markozoff of the General Staff, who was ordered to carry out two large reconnaissances to Sári-Kámish and the Atrak at the close of the summer heats.

In the beginning of September, the troops told off for the reconnaissance to Sári-Kámish were collected at Mulla-Kári; but the unwillingness of the Turkumáns to furnish camels compelled Markozoff to take them by force. Five hundred camels were thus obtained; but this number was insufficient, and 100

Government camels which up to then had been employed in carrying stores to Tásh-Arvat-Kala, had to be added to this number. This circumstance finally settled the fate of that place, and it was definitely abandoned.

The reconnoitring column consisted of $4\frac{1}{2}$ companies of infantry, six guns, and a detachment of Cossacks. It marched on the 4th (16th) September by *échelons* from Mulla-Kári past the wells of Gezli-Ata, Chágil, Kum-Sebshen, and Uzun-Kuyu to Sári-Kámish. As it advanced the leading *échelon* threw up works at some of the wells, each of which were occupied by a section of infantry with a gun, and in which a portion of the supplies was also left. These works were constructed with a view to connecting the reconnoitring column with Mulla-Kári, permitting of its numbers being reduced on entering the desert, and lightening it of its heavy baggage. Similar redoubts were constructed at Gezli-Ata, Chágil, Kum-Sebshen, and Uzun-Kuyu, and from the latter point the strength of the column which advanced on Sári-Kámish was only $2\frac{1}{2}$ companies, 2 guns, the Cossacks, and 200 camels. There were only 6 horses belonging to the artillery with the column; all the officers either marched on foot or rode on camels from Uzun-Kuyu to Sári-Kámish, and the Cossacks left the former place 60 hours after the infantry, so as to traverse the waterless tract to Sári-Kámish in one march. The hope of finding abundance of water at the latter point was not fulfilled. On the 6th (18th) October the troops descended into the Uzboi, and found that from all the wells dug in it only 20 to 25 buckets full of water could be drawn in an hour. The camels had not drunk for three days, and for the Cossacks, who had still to be supplied, 50 bucketsful were with difficulty procured and that only by mixing salt water from the lake with the well water. The latter arrived at dawn on the 7th (19th) and Markozoff, after giving them a short rest, took them on to the wells of Dekcha, together with one mountain gun, 40 infantry, all the camels, and all the vessels for carrying water. At Dekcha water was found in abundance, and the horses and camels drank their fill, and in the evening returned to Sári-Kámish. On the 8th (20th) October the column began its return march, and from Uzun-Kuyu proceeded by another road to the wells of Dakhli, where it was met by the garrison left behind at Kum-Sebshen. From Dakhli the troops marched by Chágil to the wells of Tuár, and thence part of them proceeded by Murávieff's road to Krásnovodsk and the rest to Gezli-Ata.

Besides the reconnaissance of the main route from Krásnovodsk to Sári-Kámish, reconnaissances had been pushed to the flanks to connect places, never yet visited by Europeans, with those known from earlier travellers. For example, to connect the points mentioned in Murávieff's route, a reconnaissance was made from the wells of Kum-Sebshen to those of Dirin. To the south-west of Dakhli lie the wells of Kára-Imán, and to the south-east those of Chárisli, both of which were passed by Vámbéry in his journey. Unfortunately they could not be visited, but parties were pushed out some miles on the road to each to ascertain their position with respect to the points already fixed. Finally, a reconnaissance was pushed out from Tuár to Kul-Mugir to ascertain if a base of operations against Khiva could be formed on the shores of Kára-Bughaz.

From Gezli-Ata Markozoff, with 3 companies, 4 guns, and the Cossacks, marched down the Uzboi, and at Topiátan seized a caravan of 300 camels going from Khiva to the Atrak. At the wells of Bu-Uráji, he divided his troops into two parties; one marched by the north and the other round the south of the Balkhán Hills, and thus the Uzboi was surveyed from Topiátan

down to its mouth. On the 8th (20th) November both columns returned to Mulla-Kári.

Having made final arrangements for the withdrawal of the garrisons of Mulla-Kári and those in the Gulf of Michaelovsk, Markozoff marched on the 13th (25th) November with 3 companies, 2 mountain guns, and 15 Cossacks for the Atrak *via* Tágir, Gegenli, Chukhuru-Kuyu, to Chikishliar, where he arrived on the 24th November (6th December). There the troops found the sailing ship *Aist* which had brought their camp equipage and provisions, most of which had been already landed.

That night three shots were fired into the camp, by one of which a soldier was wounded, but otherwise nothing occurred, and no more shots were fired. As it was dark, nothing could be done on our side, and therefore our action in the matter was confined to diplomatic negotiations with the Elders and Kháns of the nomad Turkumán tribes. They ascribed the crime to the robber tribe of Kelte, saying that an honourable Turkumán was incapable of such a crime towards the Russians. But Markozoff, wishing principally to disabuse the minds of the Turkumáns of the idea that Russians would never show themselves on the Atrak, advanced at 4 p.m., on the 27th November (9th December) from Chikishliar and by midnight reached the bank of the river. Owing, however, to the quick retreat of the Turkumáns and the rise of the river, which there was no means of crossing, it was resolved to pursue the offenders no further, but to be content this time with having showed the Turkumáns the spectacle of Russians on the Atrak.* Having rested his troops, Markozoff marched down the river to its mouth, and then round the Bay of Hassan-Kuli, to the *aul* of the same name, the inhabitants of which received the Russians joyfully and brought them fish. After halting for the night at Hassan-Kuli, the column returned on the 29th November (11th December) to Chikishliar.

This movement concluded the reconnaissances of 1871, during which 2,007 *vershs* (1,335½ miles) of road had been mapped out.

Two companies with 2 guns remained at Chikishliar, and one company was transferred to Krásnovodsk. Considering 2 companies as a sufficient garrison for this latter place, Markozoff sent 3 companies, the Cossacks, and the artillery horses back to the Caucasus, and thus, on the 1st (13th) January 1872, the total strength of our garrisons at Krásnovodsk and Chikishliar was 4 companies and 16 guns.

The results of Markozoff's reconnaissances were—(1) the evacuation of the positions in the Balkháns and the transfer of our base of operations to the mouth of the Atrak; and (2) an embassy from the Khán of Khiva to the Caucasus.

The causes of the evacuation of the stations in the Balkháns have already been noticed, and to what has been said may be added that the Balkháns were not the centre of the summer pasture grounds of the Yamúts, as Stolaitoff supposed, and therefore the occupation of Tásh-Arvat-Kala gave us no hold upon them. Besides the Balkháns do not even lie on one of the roads leading into the interior, and therefore are of neither commercial nor military importance. The reconnaissances of 1871 had also shown that there were *oases* between the Atrak and Gurgán, in which the *Chamur* raised corn for bond themselves and the *Charva*, partly by cultivation and partly by barter-trade, and

* The Turkumáns used always to say that the Russians would never come to the Atrak and that they would only believe in their power to do so when they had heard them and seen them there.—*Author.*

as there are ties of kindred between the two, he who ruled the *Chamur* would also rule the *Charva*. The trade of the Turkumáns of the littoral is completely at the mercy of the Astrábád naval station, as thence a stop can always be put to their fisheries and coasting trade, and therefore it is evident that if our troops held a position on the Atrak and worked together with the naval station, our influence over the Yamút *Chamurs*, and through them over the *Charva*, would be greatly increased. There is also a good road up the Atrak to Kizil-Arvat in the Tekke *Oasis*, and therefore the possession of the Atrak is the key to the whole of the southern part of the Trans-Caspian District. Such were the reasons which caused the transfer of our base more to the south.

In order to finish our account of the reconnaissances of 1871, it now only remains to notice the impression produced on the Turkumáns by our appearance on the Atrak, and our relations with Persia.

When our troops arrived at Chikishliar, the Commandant of the Astrábád naval station notified to the Turkumáns of the littoral that Russian troops would occupy a point on the Atrak, and invited them to remain quietly in their homes. A considerable portion of the *Charva* were at that time between the Atrak and the Gurgán, but the Atabai, hearing, from their fellow-tribesmen of the caravan seized by Markozoff on the Uzboi, that the Commander of the Expedition would force them to furnish him with camels, migrated into the desert, and the Turkumáns of the littoral near Chikishliar resolved not to stay there, and removed to the "Silver Hill."

Both the occupation of Chikishliar by our troops and their advance to the Atrak to punish the men who fired into our camp were at first strongly opposed by the Governor of Astrábád, who had received false news that the Russians were going to seize and fortify the "Silver Hill," and the departure of the *Charva* caused great discontent in the Astrábád District, as it was attributed to the arrival of our troops. This discontent was shewn in the difficulty experienced in raising the taxes on pasture land, and many who ought to have paid this tax, especially the Atabai, migrated. The Turkumáns were very much interested in learning whether the Russian troops would help the Governor to gather the taxes, and when they received an answer in the negative from the commandant of the naval station, they refused to pay any. Nevertheless, the number of cases of brigandage and robbery by Turkumáns was very much diminished after the arrival of our troops.

In order to extend and consolidate our influence in Trans-Caspia, the authorities of the Caucasus resolved to carry out reconnaissances on the most extensive scale in the summer and autumn of 1872. It was proposed to march up the Atrak as far as the road from Bújnurd to Khiva, cross the Kopet-Dágh, appear under the walls of Askhábad, and thence reconnoitre the roads to the Amu-Daria. Two columns were to be formed, the larger at Chikishliar and the smaller at Krásnovodsk, the total strength of both being 14 companies, 2 *sotnias* and 20 guns. To carry four months' supplies for these troops, 3,500 camels were required, which were to be hired on the Atrak. Markozoff, who had gone to Tiflis with the reports of the reconnaissances of 1871, returned to the force in June 1872, and began to make preparations for the new expedition, and as in summer the *Charva* migrate from beyond the Atrak into the desert to the north, he hoped to get transport from the *auls* of the nomads of the Balkháns.

The original plan was therefore changed, and the main column was ordered to be concentrated at Krásnovodsk, and not at Chikishliar, and both were to march in the same direction along the Uzboi, as it was the shortest road from Krásnovodsk.

The Balkhán Turkumáns refused to voluntarily furnish camels for the detachment, and therefore they had again to be taken by force; but the number thus raised was far from sufficient for the needs of the corps concentrated at Krásnovodsk, which numbered in all 9 companies, 10 guns, and a *sotnia* of Cossacks. To facilitate, therefore, the advance of the troops to the Uzboi, where they calculated on obtaining more camels, the base was transferred from Krásnovodsk to the wells of Belek, 50 miles to the east, whence supplies were to be transported by boat.

On the 27th July (8th August) Major Madchavariani marched from Krásnovodsk for Belek with 4 companies and 4 guns, with orders to arrange for the disembarkation of stores at Belek, and then advance to Topiátan on the Uzboi, seize all the camels he found along the way, and send them back under escort to Belek to equip the remaining troops.

Having given over the command of the troops at Krásnovodsk to Colonel Klugen, with orders to advance, Colonel Markozoff left for Chikishliar to direct the advance from that place of a battalion which was to unite with the troops from Krásnovodsk. This battalion had for a long time been ready to march, but had only waited for its camels. But, as we have mentioned above, the *Charva* had migrated to the left bank of the Atrak, and we could not reach the country between that river and the Gurgán. It must also be remarked that the Persian authorities did all they could to obstruct our movements; they made generous promises and lavished favours on influential Turkumáns, collected a large number of troops at Astrábád, and spread a report that if the Turkumáns left their families beyond the Atrak and went to serve the Russians, the Kurds and Gokláns would at once be let loose on their lands, and the Persian troops would undertake works to drain off the waters of the Gurgán to the south.

Colonel Markozoff removed his camp to the *aul* of Hassan-Kuli and forced the inhabitants to furnish him with 120 camels and 40 horses, but these were insufficient; so, having heard that many *Charva* were halted at Kizil-Kumákh, he despatched a company to the wells of Tagán-Klich, Chukhuru-Kuyu and Bugdaili to occupy those points, and seize the camels which another company disembarked at the former Bay of Khiva were to drive from the north. This operation was very nearly having a tragic end. The men, in the terrible heat of August, which is said to have reached 112 Fahr., started on their march with 6 days' rations, and only the water which they had in their water-bottles. Almost every man of the company sent from the south fell down from heat and thirst, and their extremity was so great that they drank even urine! Only a few men managed to reach the "White Hill," get water there, and return to their companions who were in a desperate condition, raise them up one after the other and save them. The company returned to Chikishliar without having attained its object. The other company which came from the north was also nearly perishing, but luckily found a well and was saved. It succeeded in capturing 200 camels, and thus Colonel Markozoff had 320 camels and 40 horses at his disposal. With these he could move only 2 companies and 4 mountain guns; but at that time a report was received from Major Madchavariani that he had seized 500 camels on the Uzboi, and the Colonel therefore resolved to take another company with him on the campaign and send it by steamer to Krásnovodsk. Thus the total strength of the reconnoitring column was finally 12 companies, 10 guns, and 2 *sotnias* of Cossacks.

On the 13th (25th) September, Colonel Markozoff marched from Chikishliar with 2 companies and 4 guns, and reached Topiátan on the 25th September

7th October). On the way he captured a caravan of 220 camels going from Khiva to the Atrak, and a large flock of sheep, and on the 26th September (8th October) he seized another caravan of 50 camels at Topiátan.

In the meantime supplies had been gradually pushed forward from Krásnovodsk to Belek, and as transport animals were sent in by Major Madchavariani, the troops under Colonel Klugen were moved forward; but as the number of camels obtained was quite insufficient, a part of the stores had to be sent forward to the wells in front, and stored there while the camels returned for more, and so on till all had been carried forward a stage. This naturally caused the advance to be extremely slow, and one *échelon* under Colonel Klugen's personal command, consisting of 3 companies and 4 mountain guns, with only 100 camels, took 8 days to traverse the 7 miles between Karez and Kosh-Agirli.

At Topiátan Colonel Markozoff formed his plans for the reconnaissance (1) of the road from the Uzboi to Khiva; (2) of one of the roads uniting the latter road with the Tekke *Oasis* and of parts of the latter to the south of Kizil-Arvat along the Kuren-Dágh; and (3) of the roads from Kizil-Arvat by the Atrak to Chikishliar.

On the 2nd (14th) October 9 companies and all the artillery and Cossacks were concentrated at Topiátan, and without waiting for the last *échelon* Colonel Markozoff advanced to the well of Jamála. Here he received news that a party of Khiváns had, on the 7th (19th) October, fallen on the camels of the lost *échelon*, at Topiátan while out grazing, and had driven 150 of them away.

This event which still further reduced the already too small number of transport animals with the detachment, greatly delayed further operations. Not being able to move his whole force at once with baggage, &c., complete, Markozoff constructed a fort at Jamála and placed in it a part of the supplies, 200 weak or sickly men, and 200 camels unfit for work, with an escort of a company and 2 guns, while the rest of the troops, with 40 days' supplies, were to advance in two columns up the Uzboi. While the fort was being constructed and the troops were preparing for the further advance, a party of Tekkes attacked the camels of the force on the 8th (20th) October, but were driven off with great loss, that on our side being 1 Cossack and 2 Turkumáns killed, 1 officer, 1 soldier, and 1 Turkumán wounded.

On the 13th (25th) October the force left Jamála, and on the 16th (28th) reached Igdi, where 1,500 sheep belonging to the Tekkes were seized. At Igdi the road forks, one branch leading to Khiva and the other to the Akhál-Tekke *Oasis*. Colonel Markozoff could not advance on the former road, and if he turned towards the *oasis* the nomads might have interpreted the movement in a sense unfavourable to us; but the arrival at Igdi of Tekke envoys to treat for the return of their wounded and prisoners, and bearing letters excusing themselves for the attack at Jamála (in which, among other arguments, they said that they, the Tekkes, had supposed that the Russian troops were Persians), relieved Markozoff from his difficult position. He promised to release the prisoners on condition that the Tekkes would, within three days, furnish him with 300 good camels; but if this were not done, he informed them that the Russian troops could advance upon the Tekke *Oasis* and punish its inhabitants. Nothing could have been more opportune than this turn of affairs, for if the Tekkes furnished the camels, the force would be able to move more quickly, and at the same time it might be assumed that the Tekkes would remain inactive, while if they did not our movement on the *oasis* would be attributed to a desire to punish them.

The Tekkes did not send the camels by the 18th (30th) October, and on the 19th (31st) our troops moved at dawn on Kizil-Arvat. The road from Igdi to Kizil-Arvat presented great difficulties for infantry and camels, and more still for the horses drawing the field guns by reason of the want of water and the great height of the sand hills, and the men had to assist in getting the guns through the latter. The want of water was felt to a certain degree by the men, but was shewn to a much greater extent by the exhausted state of the animals after each march. Many camels perished, and if the fallen animal carried provisions, its load was usually divided among the troops, but if not, it had to be divided among other camels; biscuits were generally served out to the troops for several days in advance, so as to have some spare camels. During the march, a flock of 600 sheep was captured.

The force reached Kizil-Arvat on the 25th October (6th November) and leaving a garrison in that place, Markozoff started with part of the troops, lightly equipped, on the same evening, and, marching by Kodj, Kizil-Chashma, Jangi, and Bámi, all of which were found deserted, and reached Burma on the evening of the 26th October (7th November) where 1,200 *kibitkas*, with their contents, were captured and burned, and the cattle taken and carried off to Kizil-Arvat. Keeping 6 companies there, on the 30th October (11th November) Markozoff sent Colonel Klugen with 5 companies and all the camels to Jamála by the wells of Giaur, to bring up the troops left there.

Klugen had to burn 30 camel-loads of stores before leaving Jamála, and on his way back to Kizil-Arvat he lost a number of camels, and had to burn 46 loads of biscuits. After he had rejoined Markozoff's column, both marched across the Kuren-Dagh through the Aji gorge, and thence down the Sumbár and Atrak to Chikishliar, where they arrived on the 18th (30th) December. This march was accomplished under great difficulties, as the camels, which had been working daily for four months, and frequently without either forage or water, were so enfeebled that the usual load of 12 *puds* (433.2lbs.) had to be diminished by half. Notwithstanding the diminution of the amount of stores carried through consumption and burning, the old system of the camels taking part of the supplies one stage forward and then returning for the rest had to be resorted to. On the march, the loads of the camels which fell had to be divided and carried by the men. Towards the end of the march, rain began to fall, which made the clay soil still more difficult for the movement of troops.

The campaign of 1872 had been very trying to the troops. There were very few camels, and the men had frequently to traverse the distance between two wells three times. Sickness had prevailed, and the death-rate in the force had been very high. Under such circumstances, we must admire the energy of the commander who succeeded in reconnoitring 1,600 *verssts* (1,066½ miles) of road.

The force remained all the winter at Chikishliar, and therefore the men who took part in the Khivan campaign of 1873 were acclimatised and experienced in desert campaigning.

In this campaign the troops from Krásnovodsk took an active part, into which we shall not enter here in detail. In the beginning of 1873, disputes arose with the Persian Turkumáns who kept our troops constantly on the alert, and compelled Markozoff to violate the Persian frontier to punish them. In December 1872, during the return march of the Krásnovodsk troops by the Atrak to Chikishliar, three large parallel marks made with swords were observed at the crossing of Báyat-Háji. The guides explained that the Turkumáns living round the place had declared war against the

Russians, and that these marks signified that they had sworn saying, "May our wives become adulteresses if we let the Russians escape without a battle."

In order to obtain means of transport for his force for the Khivan campaign, Markozoff left his troops at Chikishliar, and in the middle of January 1873 established a cordon on the Atrak with the following object. In the spring, when all the forage between the Atrak and Gurgán has been eaten up, the Yamúts cross to the right bank of the former river and move to their summer pasture grounds on the Uzboi, near the Balkháns, and especially in the space between the Kára-Bughaz and the wells of Igdi. The troops of the cordon were to prevent them from doing this, and force them *volens-volens* to surrender to us a part of their camels, to prevent the remainder from dying of hunger.

From the first days of 1873, parties of Turkumáns had begun to appear near Chikishliar with a view to seizing the camels belonging to the force, and any men who had been sent out alone to bring in fuel, grass, and the various necessities of a bivouac. At the same time the Turkumáns in our service suffered heavy losses by their cattle being driven off by brigands who found a refuge on the left bank of the Atrak.

The commander of the cordon on the Atrak, Major Madchavariani, constructed a small fort at Báyat-Háji, opposite the crossing, and organised a service of Cossack patrols along the right bank of the river.

On the 10th (22nd) February one of these patrols, consisting of 15 men, perceived a small body of the enemy and pursued them, but could not catch them up as they swam across the Atrak to the left bank, and from there opened fire upon the patrol, wounding one Cossack. At the same time a tolerably large body of Turkumáns appeared at a short distance from Fort Báyat-Háji. Major Madchavariani thereupon resolved to attack them, crossed to the Persian bank of the Atrak with his infantry and Cossacks, and pursued them till night-fall. The result of this raid was the capture of 450 camels. By dawn next day not a single Russian was left on the left bank of the Atrak.

On the 20th February (4th March) a Cossack patrol came upon a band of about 100 Turkumáns, and as the enemy were about 10 to 1, the Cossacks retired upon Báyat-Háji, followed by 30 Turkumáns, who wounded two Cossacks; but the infantry turned out and put an end to the pursuit. On the 21st (5th March), at 3 A.M., they again appeared near the camp, and although numbers of them were killed, small parties of horsemen kept our troops on the alert all day.

To put an end to temerity on the part of the Trans-Atrak Turkumáns, and to prevent the *Charva* from moving into the the desert to the north of the river, Markozoff resolved on the 27th February (11th March) to undertake an expedition on a large scale beyond the Atrak.

The troops numbered 18 companies, 9 guns, and 2 *sotnias* of Cossacks, divided into four columns, and at dawn on the 28th February (12th March) all four crossed the Atrak at different points, and advanced in the territory between that river and the Gurgán.

The expedition lasted 10 days, the Turkumáns were driven after several skirmishes to within half a day's march from Astrábád, and 3,000 camels and 3,000 sheep were captured. Notwithstanding short rations, continuous rain, and the want of tents and warm clothing, our troops made very long marches, and in 10 days each column traversed about 200 miles. One of the columns had to pass close to the Persian fortress of Akh-kala, as here there is a bridge over the Gurgán.

On their return from the Atrak, the Krásnovodsk troops took part in the expedition to Khiva; but on account of the want of water and means of transport, they only reached Igdi, and had to return in May to Krásnovodsk. Another column sent against Khiva from Kindarli Bay, under Colonel Lomakin, reached the Amu Daria in safety, and took an active part in the conquest of the Khivan Khánate.*

The impression produced on all the Turkumáns by the fall of Khiva was very great. Not to speak of the Jáfarbai, who, when the Commander-in-Chief of the Army of Caucasus visited Baku in 1873, sent to request him to receive them as subjects of the White Tsár, the people of Marv, fearing a Russian attack on their *oasis*, built the fortress of Kaushid-Khán-Kala, and only ceased their preparations for defence when they heard that the Russians had evacuated Khiva.

On the conclusion of the Khivan campaign, it became necessary to introduce some form of Government in the steppes lying to the east of the Caspian Sea. With this object, the whole of the Mangishlák District, and all the territory to the south of it as far as the Atrak Valley and stretching to the confines of the Khánate of Khiva on the east, were formed into the Trans-Caspian Military District. Temporary orders for its Government were issued on the 9th (21st) March, of which the following were the principal articles:—

1. The district is subordinate to the Caucasus Military Circle.
2. The Government is centred in the person of the Commander of the Trans-Caspian Military district, whose head-quarters are at Krásnovodsk.
3. The district consists of two sub-districts (*pristávstra*)—Mangishlák and Krásnovodsk. The former is administered by a special Prefect (*pristáv*), and the latter by the Commander of the District himself.
4. In military affairs, the Commander of the District has entire control over the troops with the powers of a Divisional Commander, and these are laid down in the rules for Military Governors.
5. In the Sub-District of Mangishlák, the military duties are carried on by the Prefect, who is guided in his actions by the rules laid down for Commanders of Sub-Districts in the Steppe Provinces.

The Government of the Trans-Caspian District was established on this footing on the 31st March (12th April) 1874, and Major-General Lomakin was appointed to the command.

Besides laying down rules for general government, the order contained instructions for the interior administration of the Kirghiz of the Mangishlák Sub-District. As regards the Turkumáns of the Krásnovodsk Sub-District, the order said that only those who recognised our sovereignty were to be divided into *auls* and *volosts* and subjected to a system of taxation and of justice. With respect to the Turkumáns nomadising between Krásnovodsk, the Khivan frontier, and the Atrak, a Special Committee, presided over by the Grand Duke Constantine Nikolaievitch, laid down the following rules.

Each of the Turkumán tribes nomadising in Trans-Caspia and crossing over to our territory from Persia, was to choose a *Khán* who was to be approved of by the Commander of the District, and each *aul* an Elder. These *Kháns* were to be representatives of their tribes, and were to reside near the Commander of the District, that is to say, in the neighbourhood of Krásnovodsk. The orders of the latter were to be communicated through the *Kháns*, and each of them had to visit all his *auls* several times in the

* For details of the share of both detachments in the Khivan Campaign, see my work *The Khivan Campaign of 1873: the operations of the Caucasian troops*, published in 1883.—*Author*.

course of the summer. On crossing the Russian frontier, the *Khán* was to give to each *aul* a ticket, signed and sealed by the Commander of the District, permitting them to nomadise in it. On the tickets were to be written the number of the *kibitkas* in the *aul*, the wells at which the *aul* would nomadise, and the name of the Elder. The latter was to have charge of the police of the *aul*, and prevent robbery and violence, seizing if he could criminals and evil-doers. The whole *aul* was to be responsible for acts of robbery or violence perpetrated in or near it, but the Elder was to be held especially so. If these conditions were not complied with, the *auls* were not to be permitted to enter Russian territory.

The Committee proposed not to impose any taxes or duties on the nomads, and not to raise the question as to whose subjects the nomads were, lest complications might thereby arise.

In order to better assure tranquillity in Trans-Caspia and to exercise greater supervision over the Turkumáns crossing over into our territory, it was at the same time decided to re-occupy Chikishliar,* and in the autumn of 1874 to push a reconnaissance up the Atrak, and if a convenient point on the river could be found, to establish a garrison there in 1875.

On assuming his duties, General Lomakin issued a proclamation to the nomads, inviting them to settle peacefully. This first step of Lomakin's called forth a protest from the Persian Government, as in the proclamation it saw a violation of the rights of the Sháh over the Atrak territory. To allay the discontent thus caused, an interchange of notes began between our ambassador at Teherán and the Persian Minister of Foreign Affairs, the substance of which will be mentioned further on in considering Persian views regarding our position in Turkumania.

On his arrival at Krásnovodsk on the 30th March (11th April) 1874, 70 Yamút representatives from beyond the Atrak met General Lomakin and expressed a wish to submit unconditionally to Russia and become subjects of the White Tsár; but at the same time they were not slow in asking us to set free 500 of their tribe who were prisoners in the hands of the Kurds, Gokláns, and even Persians.

On the 2nd (14th) April, Lomakin sent a letter to the Tekkes, in which he expressed the peaceable intentions of our Government, and invited their chief men to come to Krásnovodsk. Within a month two Tekkes presented themselves to Lomakin with a letter from Sufi-Khán† and several others, in which, among other things, they said: "All that Your Excellency has said as to peace and friendly relations will be observed by us. There is now no difference between us and you; we are ready to serve you."

At this time the Tekkes had been carrying on several raids against their neighbours, and in the end of April a party of them plundered a trading caravan proceeding from Astrábád to Khiva, at a point 80 miles from Krásnovodsk and near the wells of Oglanli. In May they raided in the provinces of Bujnurd, Kuchán, and Daragaz, and after that small bands began to appear on the left bank of the Amu-Daria and to carry on extensive raids. This latter circumstance showed the powerlessness of the Khán of Khiva to rule his turbulent subjects. From Akhál and Marv, the Commander of the Amu-Daria District received most detailed reports of the internecine feuds of the Tekke clans, which destroyed all peace on the steppe, and prevented not

* At the time of the formation of the Trans-Caspian Military District, we occupied only one point in Turkumania, viz., Krásnovodsk.—*Author.*

† An inhabitant of Kizil-Arvat.—*Author.*

only the despatch of the regular caravans, but postal communication between the Trans-Caspian and Amu-Daria districts.

In the meantime General Lomakin's reports spoke of the tranquillity of the steppe in his district, and of the satisfactory relations with Sufi-Khán, from whom he had received a second letter saying: "Without you there is no peace; for all of us the caravan trade between Akhal-Tekke and Krásnovodsk is of the utmost importance." Nevertheless the Commander of the District asked for an increase of the troops at his disposal, and for the construction of stone fortifications at Krásnovodsk and the supply of a good steam despatch-boat.

Before the beginning of the reconnaissance up the Atrak to select a site for a fort, the Tekkes on the 9th (21st) October attacked the *aul* of Khali-Sirdár, a man in our service, who was nomadising at the wells of Dash-Kabil, 25½ miles from Krásnovodsk, took many prisoners, killed all the children, seized the cattle and property, and then moved off towards the sea to punish other *auls* which had offered their services to the Russians. General Lomakin's idea was that this bold attack showed that the Tekkes knew very well that we had only 25 horse-men in the fort, and could not cut off their retreat with infantry alone. To prevent attacks on the other *auls*, he sent 2 companies and 20 Cossacks to the wells of Kábil and Burnák, and thus accomplished his object, as, on the appearance of our troops, the Yamúts rallied and pursued the Tekkes, who, abandoning part of the booty, retired into the desert.

At the same time General Lomakin received news that bands of Turkumáns were wandering about the Uzboi and on the Sári-Kámish road.

In reporting these events,* General Lomakin said: "Both I and Colonel Ivánoff† have repeatedly expressed our opinion as to the necessity of immediately settling the Tekke question on which our position both here and in Khiva depends, and the sooner the better, for we are building up for ourselves difficulties, obstacles, and causes for expenditure in the future, which will daily become greater; sooner or later a solution must become unavoidable."

On the 17th (29th) October, the Atrak expedition, consisting of 3 companies, 2 guns, 15 Cossacks and 15 Turkumán *Jigits* started.

These troops left Krásnovodsk by ship and landed at Chikishliar on the 20th October (1st November). On the shore they were met by Yamúts, who assured them that the camels and sheep required for the expedition would be immediately got ready. Judging by the reports, the reconnaissance from Chikishliar to Báyat-Háji, 30th October (11th November), resembled a triumphal march, and representatives of the various Yamút tribes came forward with assurances of good-will and offers of service. At halts and camps they brought victuals, camels and horses for sale.

On the 2nd (14th) November envoys came from Sufi-Khán with a letter, saying that at a Council, at which Taghma-Sirdár was present, it was resolved, according to the wish of the Russians, to conclude peace with the Yamúts, and return the prisoners taken on the 9th (21st) October from the *aul* of Khali-Sirdár. The end of the letter was characteristic: "Meantime I must assure you that the Tekkes are like the birds of the desert, whose bed is the sand. I do not dare to instruct you in the art of catching them, for you understand that better than I."

Having remained on the Atrak till the 1st (13th) December, the troops returned by sea to Krásnovodsk on the 2nd (14th) idem.

* Report No. 795, dated 12th (24th) October 1874.—*Author*.

† Commanding the Amu-Daria District.—*Author*.

At the same time as the reconnaissance on the Atrak, a small column of 100 men was sent out from Krásnovodsk to the Little Balkháns, to explore the naphtha resources. After working at the Naphtha Hill for five days, the troops returned to Krásnovodsk.

It may here be remarked that during the first five months of the existence of the Trans-Caspian district, the total amount of trade passing through it was 121,900 *roubles*, of which the imports (49,400 *roubles*) were less than the exports (61,500 *roubles*), by 12,100 *roubles*.*

The result of the Atrak expedition was the choice of Duz-Olum, 53½ miles from the sea coast, and 4½ miles from the Báyat-Háji crossing which it was proposed to hold. When recommending the permanent occupation of the Atrak line, the Commander-in-Chief of the Army of the Caucasus expressed his opinion that a local battalion and an artillery detachment should be formed for it, as he supposed that in the natural course of things we should be forced to unite our south-eastern frontier line with that of the Amu-Daria District, which would in its turn entail the establishment of military posts, to hold which considerable forces would be required.

The expense of establishing a permanent force on the Atrak was calculated at a primary outlay of 629,715 *roubles*, and a yearly expenditure of 315,037 *roubles*.

His Majesty the Emperor, in consideration of the large expense involved, ordered the occupation of a point on the Atrak to be postponed till a more convenient time; but in the meantime small columns were to be kept moving about to maintain our influence over the Turkumáns. With this object General Lomakin was ordered in 1875 to make another reconnaissance up the Uzboi, to visit hitherto unexplored parts, and thence to move to the Atrak by Aidin, the Lake of Shairdi and Yegenáji, whence by the ruins of Mashad-i-Misrian to Chát he was to go down the Atrak. He was recommended not to violate the Persian frontier, to take care not to give ground for

* The following are the details of this interesting commercial document:—

<i>Imports—</i>		<i>Roubles.</i>
From Khiva, cotton, silk, Bukharán and Khivan materials,		
<i>Khalats</i> , with four cavarans of 380 camels	...	32,500
Grain from Persia of different kinds	...	2,200
Turkumán melons and water melons	...	700
Rubble stone, 19,600 cubic feet	...	4,000
From Astrakhan, building wood	...	8,000
From Lankorán, wood	...	2,000
Total	...	49,400
<i>Exports—</i>		
To Khiva, Russian manufactured goods, rum, champagne, with		
three caravans of 180 camels	...	18,000
Across the Atrak, Russian manufactured goods	...	600
To Baku, camels, 500	...	25,000
To Astrakhan, fish, glue, and dried sturgeons' bones	...	11,500
To Persia, naphtha, 3,540 cwt.	...	2,500
To Petrovsk, photogene, 640 cwt.	...	3,500
To different places, rock-salt, 4,480 cwt.	...	400
Total	...	61,500
Retail trade at Krásnovodsk	...	11,000
GRAND TOTAL	...	121,900.— <i>Author.</i>

diplomatic protests, and to avoid giving any cause of offence to the nomads, or to use armed force against them.

The reconnoitring column (9 companies, one *sotnia*, 4 guns, and rockets, in all 1,066 men and 200 horses) was concentrated at the wells of Mulla-Kári on the 27th May (8th June) and thence marched by Buuráji, Topiátan and Igdi to Bála-Ishem.* From the latter point, a small party pushed on to Sári-Kámish *via* Charishli. On the 10th (22nd) June, some Tekkes appeared at Igdi before General Lomakin with offers of submission. They also appeared in our camp on the homeward march during the two days' halt at the wells of Arvat.

It must be remarked that, after the Khivan campaign, the Tekkes were in a most undecided state of mind as to what policy to pursue towards the Russians. Though a minority of the richer people recognised the necessity of submitting to Russia, the great majority objected to a peaceful solution of the question, even on the basis of an agreement favourable for both sides. Thus in all declarations, letters, and actions of the Tekkes, a certain amount of double-dealing is plainly discernible. The Commander of the Amu-Daria District reported at the end of 1874, that emissaries from Marv and Akhál were constantly going to Khiva and returning from that place richly rewarded by the Khán, but the substance of their intrigues was unknown. In the beginning of 1875, 20 Tekkes arrived at Krásnovodsk, bringing with them 42 prisoners. Things were evidently going on well, but the Tekkes still retained the 30 prisoners taken by them from the *aul* of Khali-Sirdár, who was in our service, till the Yamúts returned three Tekke prisoners they had captured. The Tekke deputies swore an oath for themselves and for all "good" men to be peaceful and good subjects of Russia. One of those who took part in the diplomatic negotiations at Krásnovodsk, and was more eager than the others to assert his fidelity, was Sufi-Khán, the same who led the bands which attacked our troops during Markozoff's reconnaissances. Later events showed that his *aul* was near Kizil-Arvat, and therefore was the most exposed to our attacks, whether from Krásnovodsk or from Chikishliar. It appears that after the fall of Khiva the political ideas of Sufi-Khán underwent a radical change, and he became so devoted to us that, on his return to Akhál from Krásnovodsk, after the negotiations in January, when he found that a revulsion of feeling against us had taken place among the people, he wrote on the 20th April (2nd May) to General Lomakin: "The Tekkes have peremptorily forbidden all their race, on pain of death, to hold any communication with the surrounding people, and will receive your envoys with hostile acts rather than with friendly advances." At the end of his letter was the following quite unexpected sentence: "I think it my duty to point out and to assure you that till the flag of the White Tsár flies over the land of the Tekkes, there will never be peace and order."

In the meantime it became known at Krásnovodsk that the peace party, to which the Tokhtamish clan belonged, had got the upper hand in the assembly at Gok-Tapa, but that the Utamish had sent a deputation to the Marv-Tekkes to complain of the peaceful proclivities of the former.

In consequence, some deputies from Kaushid-Khán of Marv appeared in Akhál, and informed the Akhál-Tekkes that if they dared to enter into communication with the Russians, a large army would be sent from Marv to Akhál to punish the traitors.

* 570 camels from Mangishlák were furnished for the troops.—*Author.*

This was about the same time that our reconnoitring column marched for the Uzboi.

It appears that this expedition produced some impression in the *oasis*. Nur-Verdi-Khán returned from Marv to Akhál, where he was elected Khán. The Marv deputies returned home, public opinion took a pacific turn, and the Tekkes returned 10 more prisoners to us. The faithful Sufi-Khán was one of the first who appeared in our camp to bring carpets, rugs, barley, &c., for sale.

The Akhál-Tekkes were convinced of the uselessness of resisting the Russian advance into their country, and, true to their character, to delay or prevent this advance, sent Muhammad-Ali-Kázi, with a letter from the Elders of the four tribes of Akhál, to General Lomakin in his camp at Jamála.

He delivered a speech to the General, which shewed in a marked manner those traits of Turkumán diplomacy which give it, so to speak, a place of its own in history. At first he spoke of the advantages the Tekkes would derive from becoming subjects of the White Tsár, the most powerful of monarchs, and said that they therefore desired to put themselves under his sway. Further on he said that more than a hundred years before, the ancestors of the Kháns of Khiva had subdued the Tekkes, and that as the present Khán had become the obedient servant of the White Tsár, the Tekkes also wished to become faithful Russian subjects, but desired at the same time to adhere to their former relations with the Khán of Khiva.* He finished his speech by promising obedience, the suppression of brigandage, and free trading facilities, on the condition that the Russians would punish the Yamúts who had robbed and pillaged the inhabitants of Akhál. At the same time the Kázi asked for the confirmation of the laws and rights of property established among the Tekkes by Chingiz-Khan (?!)

On the declaration of the Tekkes that they were subjects of the Khán of Khiva, Lomakin answered that, as the Khán was now our friend, it was all the same to us whether they obeyed him or us, if only they would remain quiet and not molest the Yamúts or the trading caravans which would soon begin to travel between Khiva and Krásnovodsk.

When, however, Tekke representatives appeared at the end of 1875 before the Khán of Khiva, and asked him to administer Akhál-Tekke, and when the Commander of the Amu-Daria District advised him to send a trustworthy personage to govern them, Lomakin had protested against it. He thought it much better to strengthen the hands of Nur-Verdi-Khán, as he was the head of the Russian party in Akhál and the enemy of Kaushid-Khán of Marv; he too was respected by the Akhál-Tekkes, and was also on friendly terms with the Khán of Khiva. Nevertheless the Khán of Khiva obeyed Colonel Ivánoff and sent Musa-Mutavali, one of his own men, to the Tekkes.

On the 29th June (11th July) the Russian troops left the Uzboi, and on the 3rd (15th) July returned to Mulla-Kári. "Never were the steppes of this country so peaceful and quiet as now," the Commander of the Trans-Caspian District reported on the return of the Uzboi expedition.

For the reconnaissance on the Atrak, the troops (948 men) were sent by sea (4 companies), and by land (4 companies, 1 *sotnia* and 4 guns) to

* Wherever they could the Tekkes everywhere set up, between themselves and the Russians, the shadow of the rule of the really powerless Khán of Khiva. Many letters received by General Lomakin bear witness to this, and most of them said: "As the Khán of Khiva is now a subject of the White Tsár, so we too will obey him and are ready to carry out any of his orders."—*Author*.

Chikishliar, where both portions of the force were concentrated on the 12th 24th) August.

Judging by the reports, the march of the troops from Mulla-Kári to Chikishliar was again like a triumphal march, the Jáfarbai and even the Atabai meeting the troops with great rejoicings, and men, women, and children coming out to receive them. At the halts they pitched *kibitkas* for the troops, and everywhere bazaars were formed, to which the people came to sell melons, water-melons, milk, *airán* (fermented milk), fowls, sheep, carpets, felts, &c.

On their part the troops amused and astonished the nomads with music, and firing of guns and rockets. So things went on to Chikishliar, and even on the march up the Atrak to Báyat-Háji-Olum, where several thousand perfectly wild *Charva* were nomadising. They too came out quietly to meet the Russians. In a word, on this occasion it so happened that one would meet a Russian soldier clasping a Turkumán and explaining to him the greatness of Russia, the action of the breech-loader, &c.

The troops remained on the Atrak till the 2nd (14th) November, but they only ascended the river to 4 miles above Chát, and on their return march visited the mouth of the stream once more, returning by sea to Krásnovodsk.

At this time Musa-Mutavali, the man sent by the Khán of Khiva to govern the people, arrived in Akhál. According to Lomakin's report, the ferment in Akhál increased with his arrival, one party wanting him for their *Khánu*, the other adhering to Nur-Verdi-Khán. Musa-Mutavali soon returned to Khiva, and Lomakin proclaimed to the Tekkes that all their communications with the Government of the Trans-Caspian District must be made through Nur-Verdi-Khán only, and that we would only protect these caravans organised by Tekkes which were provided with permits signed by him. The same rules were to apply to single people travelling.

As it was recognised that the favourable result of the expedition of 1875 had weakened the obstinacy of the Tekkes, the Commander-in-Chief of the Army of the Caucasus thought it possible to take a fresh step towards the pacification and organisation of another, and most important, portion of the population of the Trans-Caspian Military District. Recognising the uselessness of putting the Akhál-Tekkes under the rule of the Khán of Khiva, he proposed in 1876 to send a force of 3 battalions, some *sotnias*, and a few guns to Askhábad *via* Kizil-Arvat. If it were not decided to establish our rule in Akhál, the Commander of the Trans-Caspian Military District would be obliged to assemble the representatives of the Tekkes and make them choose a ruler for their country. He would then cross to the south side of the Kopet-Dagh, *i.e.*, to the north-east frontier of Persia, and thence return to the Caspian by the right bank of the Atrak. But the opinion of the Supreme Government was: "It is wrong to hurry the march of affairs in Central Asia, and it is necessary to allow some time to elapse to consolidate our influence. There is no extreme necessity for at once establishing our administrative system amongst the border tribes, and there is no reason for troubling ourselves about our boundary in Trans-Caspia being undefined; these matters will settle themselves in time. By taking decisive measures now we may involve ourselves in inextricable difficulties, not to speak of considerable expenditure." The military movement towards Askhábad was of itself an undertaking of considerable importance.

For these reasons the Emperor ordered that under no pretext were the troops of the Trans-Caspian District to be sent to the Upper Atrak or to the country of the Akhál-Tekkes, towards Askhábad. It was, however, thought

necessary and useful to turn their attention to the roads leading from Krásnovodsk to Sári-Kámish, so as to finally ensure communication and caravan trade between the Caspian and the Aral Basins. Our troops were, therefore, to assume an attitude of observation in the country to the south of the Uzboi.

In 1876, therefore, General Lomakin's task was to reconnoitre the road between Krásnovodsk and Khiva, improve and protect it from the raids of brigands, and at its north-east end, for instance at Ushák-Band near Kuhna-Urganj, to establish a trading factory, fortify it, and provide it with a sufficient garrison.

The force told off for this purpose consisted of 6 companies, 1 *sotnia*, and 4 guns (900 men and 213 horses), with 900 camels. On the 23rd August (4th September) it marched in two *échelons* *via* Burnák, Kush-Ába, Gezli-Ata, and Bulmudzir to Chágil.

On the 29th August (10th September), it arrived at Dekcha, on the confines of Khiva, and on the 7th (19th) September it reached the dam of Ushák-Band, where it remained till the 14th (26th) October. Small detachments had been left at various places on the line of march to work borax, to clear out old wells, and to dig new ones.

On the 14th (26th) October the return march began, and, picking up the detachments, the column reached Krásnovodsk on the 9th (21st) November.

The attempts at digging for borax on the Ust-Yurt were a complete failure. The road from Krásnovodsk by Kum-Sebshen was, in Lomakin's opinion, the shortest and best of all those between the Caspian and the Amu, and he also thought that Ushák-Band was the best place for the establishment of a trading factory, as it abounded in good water, fuel, and grass, and its hygienic condition was satisfactory.

The events in Akhál at the end of 1876 distracted our attention from the road between Krásnovodsk and Khiva, and fixed it on the Tekke Oasis. In the spring of 1877, it was decided to occupy Kizil-Arvat temporarily, in anticipation of the final settling of the question of the establishment of peace and order among the tribes of Akhál-Tekke. The necessity of this had been long foreseen, and the intrigues of the Tekkes, in the end of 1876, to put themselves under the power of the Sháh forced us to oppose their intentions by every means in our power, "as the Akhál-Tekkes nomadising on the right bank of the Atrak were within the sphere of action of the Trans-Caspian Military District." Lomakin was ordered to so arrange his advance that the population of Kizil-Arvat and the neighbourhood should not leave their homes on the approach of our troops, and, in order that our stay at Kizil-Arvat might consolidate our influence over the people, he was recommended not to use force.

For the expedition there were assigned 9 companies, 2 *sotnias*, and 8 guns (1,820 men). These required 2,500 camels, but Lomakin could only collect about 1,900, of which 1,350 were hired from the Kirghiz of Mangish-lák, while the Atrak-Turkumáns only furnished 580 out of the 1,000 promised by them.

On the 31st March (12th April) the transport of the expeditionary force from Krásnovodsk to the Gulf of Micháelovsk began. At the beginning of this movement, reports were received that the Tekkes nearest the fortress were remaining quiet; but that, on the contrary, those further inland were preparing to oppose us, that bands of them were roaming on the steppe, and that large numbers had been seen near the wells of Tuár, apparently marching northwards towards the Kára-Bughaz.

On the 22nd April (4th May) the whole expeditionary force was concentrated at Mulla-Kári, and on the 25th April (7th May) it started, taking with it supplies sufficient to last "almost" to the 1st (13th) July. Marching by Aidin, Akhcha-Kuima, Shigak, Kaplán, Kutun-Kuima, and Aji, it occupied Kizil-Arvat. On the 7th (19th) May the inhabitants of this *aul* had retired to Koja after burying their property, but this did not prevent some of them from appearing in General Lomakin's camp and renewing their peaceful assurances. Meantime, most alarming reports were received in camp from the *oasis* to the effect that the priests were stirring up the people against us, and that large forces were gathering for an attack on our troops. Till the 12th (24th) May all was quiet, but at dawn on that day, just as a column under Lieutenant-Colonel Navrotski was starting on a reconnaissance towards the hills, the first shots were fired, and large masses of mounted and dismounted Turkumáns were seen advancing. Among these masses, which were led by Nur-Verdi-Khán, who had hitherto been considered the head of the Russian party in Akhál, there were, according to General Lomakin's report, "people from all the Turkumán fortresses far and near, with all their *Kháns*, *Isháns*, and *Aksakáls*, and all had sworn not to yield a clod of their lands to us." According to the same report, their intention was to drive off our camels, defeat our cavalry, cut off the water of the Kizil-Arvat stream from our camp and sever the communications of the force with Krásnovodsk.

The engagement with the Tekkes lasted four hours, and at the end they had to yield to our artillery and rifle-fire and retreat, leaving 60 dead bodies on the field, their total loss in killed being 200 men. Our losses were only 1 soldier killed and 11 wounded.

The enemy retired to Burma and on the 13th (25th) May dispersed to their homes. On the 15th (27th) idem, people from the villages between Kizil-Arvat and Burma, including the latter, presented themselves to Lomakin and said to him: "Consider our fortresses yours; we are quite obedient and ready to carry out all your orders." On the 19th (31st) May, the settled inhabitants of the places occupied by us began to return to their fields, and on the 21st May (2nd June) the *Kháns* and *Aksakáls* of several distant fortresses came in with assurances of submission. Thus things went on till the 28th May (9th June), but at the same time reports came in of new gatherings in Akhál and of artillery being sent from Marv.

At the end of May, our troops moved to the Gulf of Micháelovsk, along the foot of the Kuren-Dágh, the causes of the retreat being, according to Lomakin's report, the insufficiency of provisions, the weakness of the force, which did not permit of detachments being sent to the sea-coast to bring up supplies or to forage for them on the spot, and the great amount of sickness among the troops.

As our troops were marching off, two Turkumáns came to the Commander of the detachment and explained that, although the Tekkes feared our further advance, and were gathering together, they still sincerely desired peace and wished us to send plenipotentiaries to Burma and return the prisoners taken by us; but their proposals were not agreed to. The force halted at Mulla-Kári and remained about a month there, awaiting for orders from Tiflis to return to Kizil-Arvat and punish the Turkumáns for their attack on our troops, as General Lomakin had suggested; but on this being forbidden, the force returned to Krásnovodsk.

The period of our campaign in Bulgaria passed quietly in the Trans-Caspian district, Krásnovodsk being the only point held.

In the beginning of 1878, as a rupture with England was imminent, it was decided to strengthen the forces in the Trans-Caspian Military District, and to send a force of sufficient strength to Akhál and towards Marv with a view to making a closer acquaintance with the latter place, hitherto almost unknown and untouched by our influence, and also to protect the country between Krásnovodsk and the Amu from the inroads of Turkumán bands. It was proposed also to move troops from the Amu-Daria District to unite with the Caucasus troops at Marv. In consequence, however, of the agreement with England at the Congress of Berlin, the Emperor ordered these movements to be suspended, the force concentrated at Krásnovodsk for this campaign being ordered to confine its action to local objects, and to the assurance of tranquillity in the country.

General Lomakin was therefore ordered to establish himself on the Atrak, to occupy Chát, and to organise secure communications between it and Chikishliar, where a permanent fort was to be established, and also between it and the Gulf of Micháelovsk. After having established itself on the Atrak, the further action of the force was to be confined to reconnaissances along the banks of the Sumbár and Chandir, and up to the environs of Kizil-Arvat, near which it was proposed to establish an advanced post.

For these objects General Lomakin had at his disposal the same troops which had been concentrated for the demonstration against Marv, *viz.*, 18 companies, 2 *sotnias* of Cossacks, and 8 guns. With these he advanced on Chát, which was occupied on the 3rd (15th) August.*

The Atrak Valley having been occupied without difficulty, Lomakin proceeded to undertake reconnaissances up the Sumbár and Chandir, and advancing a short distance up the valley of these rivers, on the 21st August (2nd September), the force reached Khwája-Kala. Hence two companies were sent to the Gulf of Micháelovsk to bring up supplies, and the rest of the troops moved to Band-Hassan.

On the 5th (17th) September, a column of 2 companies and 2 *sotnias* sent out to cut *jugúra†* from a field purchased by us, was fired at by some Tekkes in a tower and a soldier wounded. Of the eleven defenders of the tower, three succeeded in escaping, but the rest were killed, wounded, or taken prisoners. After this, the force returned to Khwája-Kala where, on the night of the 7th (19th) and 8th (20th) September, a party of mounted Turkumáns attacked the camp on three sides, yelling and firing; but the troops at once turned out and repulsed the enemy without loss to themselves. A few hours after this affair, the troops moved off to Társakan, followed the whole way by the Tekkes till the evening so that the artillery had to open fire on them.

On the 14th (26th) September the force returned to Chát, and on the 16th (28th) after Divine Service, the construction of Fort Chát was begun, for the garrison of which 8 companies, 2 *sotnias*, 4 guns, and 4 rocket-troughs had been told off. During the construction of the fort, the two companies which had arrived on the 19th September (1st October) from the Gulf of Micháelovsk with supplies were added to the above force, and 1,200 government transport camels were also left there. With the rest of the force Lomakin returned to Chikishliar, where also a fort was constructed. Leaving 8 companies and 4 guns as its garrison, the Commander of the Trans-Caspian

* The baggage was carried on 3,000 camels bought from the Turkumáns; supplies for four months were also taken.—*Author.*

† Maize or Indian corn.—*Rev.*

District, with one company of the Krásnovodsk Local Battalion, sailed on the 23rd September (5th October) for Krásnovodsk, where at that time a strong stone fort was being constructed. The troops left at Chát and Chikishliar were provided with supplies till the 1st (13th) April 1879.

On the 7th (19th) October the Tekkes attacked six unarmed artillerymen who were out foraging near Chát, killed one of them and carried off five as prisoners. To effect their release, the Commander of the Trans-Caspian District seized a Tekke caravan of 20 men and 73 camels, and informed the Tekkes that if the men were not at once set free, our captives would be exiled. This measure was a failure, and only caused an outbreak of hostile feeling among the Tekkes. On the 19th (31st) October, a party of them attacked a company on a foraging expedition near Chát, a detachment engaged in stone quarrying, and the camels when out grazing. We lost 2 men (one killed and one wounded), and 32 camels.* On the 24th December 1878 (5th January) 1879 they raided up to Chikishliar, and had a skirmish with the garrison.

In 1879 it was decided to undertake a new expedition to subdue the Akhal-Tekke *Oasis*.

But before proceeding to the description of this campaign, we think it necessary to consider the conduct of the Persian Government during our gradual advance into the country, so as to understand the political nature of our position in Turkumánia.

The Persian Minister of Foreign Affairs, on receiving the news of the preparation of an expedition to occupy Krásnovodsk, expressed to our ambassador at Teherán, on the 29th October (10th November) 1869, the regret of Sháh-Nasr-ud-din that the Russians should, without his consent, occupy a point which had always been considered an integral part of Persian territory. The ambassador explained to the minister that the landing of our troops was not meant as an act of hostility against Persia, nor against the Turkumáns. In the course of the negotiations, it became apparent that Persia laid claim to the whole country occupied by the Turkumáns. While expressing some surprise at the pretensions of Persia to power in a country, wherein according to the Turkumán proverb, "no Persian ever appeared except with a rope round his neck," our ambassador pointed out that there were no facts or treaties to support this pretension or to give Persia any rights over Turkumánia. The Turkumáns recognised neither Persian nor Russian power, and therefore this question was still one requiring solution. At the end of the negotiations, our ambassador added that "our present undertaking would not interfere with any one's rights, and would leave the question in the same state in which it had found it."

The Sháh, on hearing of the occupation of Krásnovodsk by Russian troops, demanded, in an autograph letter to our ambassador at Teherán, that a pledge should be given that Russia would recognise the authority of Persia over the Yamúts nomadising on the Atrak and Gurgán and that she would construct no forts on those rivers. This question was settled by a telegram from St. Petersburg to the ambassador which ran:—

"You may write an answer to the Sháh, saying that we recognise Persian authority on the Atrak, and in consequence have no intention of constructing forts in those parts."

During Stolaitoff's reconnaissances in 1870 and 1871, neither objections nor protests were raised by the Persian Government, but when Markozoff's troops appeared on the Atrak a protest was made.

* *Our operations in Trans-Caspia from 1869 to 1879*, by Colonel Soboleff.—*Author*.

As the greater part of the *Charra* withdrew to the north when our troops advanced up the Atrak, great discontent was caused among the authorities of the Astrábád Province, because the taxes and the sums paid for the right of pasture (*maliat*) could not be collected.

This dissatisfaction may be explained by the circumstance that many of the Turkumáns, without being pressed, stated that they had received a promise from the Governor of Astrábád never to send Persian troops against them provided they would act against the Russians who would never dare to appear on the Atrak. As already related, the Turkumáns attacked our troops several times, thinking that they would get off scot free; but Márkózoff demanded that Persian troops should be sent to the Atrak, and that the Persian Government should punish the guilty ones.

During the negotiations on this subject at Teherán, the Sháh's minister remarked to our ambassador that no doubt the latter was well acquainted with the position of Persia towards the Turkumáns, and that these nomads were the terror of the Persians, who were powerless against them.

Nevertheless, the crossing of the Atrak and Gurgán by our troops in 1873, caused by the inactivity of the Persian Government, called forth bitter complaints against the movements of the Russian forces, who were breaking the pledge given in 1869 by the Russian Government, as to the Atrak being considered the frontier between the two empires. The Sháh's Prime Minister told our ambassador that Russia was a powerful state, and could always back up its pretensions by force; but that in this question, right would always remain on the side of Persia.

In 1874, after his return from his journey to Europe, Sháh-Nasr-ud-din expressed his wish to co-operate with Russia against the Tekkes. If this offer had been accepted, it would have been made an inconvenient precedent for Persia interfering in our affairs in Central Asia, and therefore the Emperor, Alexander II., ordered our ambassador to positively decline it, and to inform the Persian Government that we had no intention of undertaking any military expedition against the Turkumáns. In the event of the attacks of Turkumán bands on our caravans or detached parties, we had always small forces ready to punish them, but as their movement in one direction or another depended entirely on local circumstances, which could not be foreseen, we would neither invite the Persians to co-operate with us from the north nor south, in the Turkumán steppe.

In this same year General Lomakin's proclamation to the Turkumán people, issued on his assuming the functions of Commander of the Trans-Caspian Military District, gave new cause for diplomatic protests, and in the translation of this proclamation made in Persia, the following sentence occurred: "The Grand Duke Michael, brother of the Tsár of Russia and Commander-in-Chief of the Army of the Caucasus, has, by order of the Emperor, made me Governor and Plenipotentiary over the Turkumáns of the Atrak, the Gurgán, and the country near those rivers."

The Teherán Government saw in these words an attempt at a usurpation of the rights of the Sháh over the Atrak and Gurgán territory. On receipt of a note to this effect, our ambassador, Beger, thought it necessary to lay the whole affair before the Imperial Chancellor, Prince Gorchakoff, and at the same time wrote: "If the views expressed in the note of the Persian Minister for Foreign Affairs are justified (and the said proclamation is attached), I venture to think that Major-General Lomakin certainly had no right to call himself Governor of the tribes nomadising between the Atrak

and Gurgán, for this is in direct opposition to our declarations. I also think that its effect on the Turkumáns living beyond the Atrak will be to raise a highly inopportune question as to whose subjects they are,—a question which the Imperial Ministry has judged best to leave undecided at present."

In consequence of these representations, the ambassador was ordered to explain at Teherán that we would strictly observe our compacts with the Persian Government as to the Atrak frontier, and that the Imperial Government sincerely desired to maintain good neighbourly relations on this border.

In 1876 a report reached our authorities that the Akhál-Tekkes were carrying on negotiations with the Persian Government, through Abdul-Hassan-Khán, Governor of Kuchán, for the latter to receive them as its subjects, and Abdul-Hassan-Khán actually appeared in Teherán with a few dozen Tekkes as representatives of the whole people of Akhál. The Tekkes promised not to plunder the Kurds and Persians, and to recognise the Sháh as their suzerain. In return for this they demanded from the Persians 6,000 *tumáns* a year for the maintenance of *farráshes*.*

When our Minister for Foreign Affairs heard of these negotiations with the Tekkes, he instructed the *Chargé d'Affaires* at Teherán to inform the Persian Government that their efforts to subject the Tekkes to their influence would be opposed by every means in her power by Russia, and, as above related, it was resolved to send a force to occupy Kizil-Arvat.

The disorders among the Turkumáns of the Atrak in this year, which called for the presence of Persian troops in their midst, and in consequence of which the nomads removed with their families to our territory, caused General Lomakin to request instructions as to how he was to act under the circumstances.

The answer sent to him was—(1) there is no treaty with Persia as to the reciprocal surrender of criminals; (2) the question as to whose subjects the Trans-Atrak Turkumáns are is not yet decided; (3) we must ignore the quarrels of Trans-Atrak Turkumáns with Persia; and (4) the Turkumáns are not to be prevented from crossing into our territory.†

While the Commander of the Trans-Caspian Military District was reporting, in speaking of the skirmishes at Band-Hassan and Khwája-Kala and his retreat to Társakan‡ that "the bulk of the Tekke people, including all their distinguished and influential men and *Kháns*, had taken no part in the actions of a handful of mad scoundrels, but on the contrary had kept us informed of all their doings," Zinovieff, our ambassador at Teherán, took a contrary view of this subject.

He said that the Expedition of 1878, like that of 1877, had failed in its chief object—the subjection of the Tekke nation to our rule, and the suppression of all raids; that the Tekkes had boldly pursued our troops on their return movement from Khwája-Kala to Chát, and had had continual skirmishes with them. All these proceedings produced a very bad impression in Persia, where they were regarded as defeats. "In the interests of Russian influence," wrote the ambassador, "it is necessary to make ourselves respected in Persia, and in order to keep up our prestige we must severely punish the Tekkes and prevent the renewal of their bold attacks. The experience of the last few

* Each time that the Tekkes offered to become subjects of any State, they asked for money to maintain *farráshes* to keep order. Thus, in 1867, they asked us to hire *farráshes* from among them and in 1880 they again made the same request to the Teherán Government.—*Author*.

† *Our operations in Trans-Caspia from 1869, to 1879, Soboleff*.—*Author*.

‡ In September 1878.—*Author*.

years has shown that these results cannot be attained without first completely subduing the Tekkes and occupying their country." Of the two methods of effecting this, the gradual one, carried out by small forces, or the quick one, *i.e.*, the simultaneous occupation of the whole country, the ambassador preferred the latter as the most convincing from an Asiatic political point of view. The Sháh's Government had begun to recognise how useful to them our occupation of the Tekke country might become, and therefore the occupation of the *oasis* by us would not have a bad effect on our relations with Persia. On the other hand, the success of the English against the Afgháns had produced a strong impression in Persia, and had increased the influence of England in that country, and the occupation by us of the Tekke *Oasis* would bring us close to the frontiers of Khorássán and counterbalance English influence in that country. Finally, the sooner we occupied Akhál-Tekke, the sooner we should gain an advanced point which would serve as a bulwark for us in Central Asia.

Zinovieff's proposals were submitted, on the 21st January (2nd February) 1879, to the deliberations of a Special Committee* at St. Petersburg, the President of which was the Commander-in-Chief of the Army of the Caucasus. At their meeting, it was stated that, as long as nomad tribes, under no control and owning no superior, wandered in Turkumania, peace and tranquillity would not be ensured in it, and the southern frontier of the Trans-Caspian territory could only be considered as firmly established when it was conterminous with the limits of countries which recognised international treaties. Ten years' experience of the occupation of Trans-Caspia had shewn us that the constant equipment of small expeditions was very expensive and produced no results. Of the points occupied by us, Chát was in a state of siege, since no one could go outside its walls without a strong escort; open attacks too had been made upon Chikishliar. The Tekkes could do as they pleased in the Atrak region. To put a stop to this state of things, it was necessary to at once establish Russian power in the Tekke *Oasis*, which by its geographical position offered us every means of preventing Tekke raids.

Having devoted attention to all these considerations, the Committee considered it necessary—(1) to form a force in the spring of 1879 at Chát, sufficient to conquer the Akhál-Tekke *Oasis*, and to do this it was imperative to occupy a strategic point in a favourable position for securing our conquests in the *Oasis* and for covering our communications with our base of operations on the Atrak; and (2) after subjugating the Tekke *Oasis* to proceed to the occupation of the Uzboi line and build a fort at Igdi or some other suitable point on the old bed of the Amu-Daria to cover the caravan route from Krásnovodsk to Khiva.

On the 23rd January (4th February) these resolutions were confirmed by the Emperor Alexander II.

In consequence of the conclusions arrived at by the Committee, the following directions were issued to the Caucasus Government by the Russian Minister:—

The occupation of Marv, although pronounced a practicable undertaking, especially after the conquest of the Tekkes, would be a disadvantage to us both from a political, and especially from an economical, point of view. A movement from Akhál on Marv is therefore not only strictly

* Consisting of the Ministers of War, Commerce, and Foreign Affairs, and the Chief of the Staff.—*Author.*

forbidden, but the chief duty of the Commander of the Expedition will be to avoid, by every means in his power, giving cause for a further advance into Turkumán territory. The objective point of the Expedition will be in the neighbourhood of Gok-Tapa but the choice of the exact point is left entirely to the Commander of the Expedition, and, on its capture, he will consider the object of the campaign as attained. The line of operations is not to traverse any Persian territory, even with the consent of that country, as this might cause complications with that power, which are undesirable in the present state of our political relations with it.* Even the road by the Atrak to the Kurdish settlements and thence across the Kopet-Dagh to one of the Tekke *auls* is only to be used with the consent of our ambassador at Teherán, so as to avoid all causes of discontent. However undesirable it may be to violate the integrity of Persian territory, every advantage should be taken of it to the extent of obtaining in a commercial way provisions and the necessary transport.

The following troops were designated for the Expedition by the authorities of the Caucasus:—16½ battalions† on the peace footing of 450 men per battalion (7,310 men), 18 *sotnias* and 2 squadrons of cavalry (2,900 men), and 34 guns (400 men).

Of these troops, 4,000‡ infantry, 2,000 cavalry, and 16 guns were to form the active army, and the rest were to be employed on the line of communications.

1,872,540 *roubles* were assigned. These figures allowed for the purchase of rations for the men and horses, hire of camels, purchase of carts, hire of guides and drivers, sea-transport, pay of 6 *sotnias* of native militia, extraordinary expenditure, &c.

As Chief of the Expedition, with the title of "Temporary Commander of the Troops in the Trans-Caspian Military District," General Aide-de-Camp Lazareff, Commander of the 1st Army Corps of the Caucasus, was chosen.

As in the Appendices to this work we have given the various details of the organisation of the Expedition of 1879 (Transport resources, Intendance, Hospitals, General sanitary measures, &c.), we will not review these subjects here but merely confine ourselves to a short exposition of the progress of the Military operations. But first of all we will make some remarks on the attitude assumed by Persia towards our undertaking.

Sháh-Nasr-ud-din had expressed his readiness to assist us in every way by supplying provisions and means of transport for the expedition to Akhál-Tekke.

His good-will was principally shown by the permission to complete the telegraphic communication between Chikishliar and Astrábad. The question of the connection of the east coast of the Caspian with the telegraphic network of the Empire was only brought up when an important expedition to Akhál-Tekke was decided on. On the 7th (19th) February it was decided to lay a sub-marine cable between Baku and Krásnovodsk, but, as the construction and laying of the cable would take a considerable time, and Chikishliar was the base of the force, the Commander-in-Chief of the Army of the Caucasus

* For the same reason the offer of the Persian Government to send troops from Daragaz to our assistance was refused.—*Author*.

† There were in Trans-Caspia 5½ battalions, 2 *sotnias*, and 22 guns. The rest of the troops 11 battalions, 16 *sotnias*, 2 squadrons and 12 guns, were to be shipped to the east coast of the Caspian.—*Author*.

‡ In Appendix II will be found a Return of the troops comprising the Akhál-Tekke Expeditionary Force.—*Author*.

thought it necessary to construct a telegraph line from that place to Astrábád, whence messages could be sent to Tiflis over the Persian lines.

On the 28th May (9th June) 1879, the plenipotentiaries of Russia and Persia concluded a convention for the prolongation of the telegraph line on Persian territory, on the basis of which the Persian Government undertook the care of the line. It permitted Russian officials to be placed at those stations between Astrábád and Julfa inclusive, at which they were considered necessary for the regular despatch of messages. These messages were to take precedence over all private telegrams, but were to give way to those of the Persian Government.

We were also permitted to send agents into the northern provinces of Persia to buy provisions. To guarantee the success of their operations, a Persian official, Khanlar-Khan, was sent by his Government from Teherán to Bujuurd and Kuchán, and if this arrangement was of little practical use to us, the fault does not lie at the door of the Persian Government. The question of raising a militia from amongst the Trans-Atrak Turkumáns, as contemplated by General Lazareff, met with decided opposition from the Sháh's Government, and as the support of Persia and the maintenance of perfectly friendly relations with her were of great importance to us, our Government recommended Lazareff to give up this idea, lest we should be reproached with having violated the strict neutrality of Persia, or with having injured her interests or thrown suspicion upon her policy. He was also specially warned not to raise the question of the Perso-Russian frontier, and therefore to avoid, as far as possible, moving troops through any place about which there could be any dispute. For the success of the expedition and the diminution of its cost, we were to look for no assistance from the Sháh's Government, except in the matter of supplies and means of transport.

In considering the expedition from all points of view, our Government had also to take into consideration the possibility of the Akhál-Tekkes being supplied with provisions, arms, and artillery from Marv. In consequence of this, a telegraphic order was sent in the beginning of 1879 to the Governor-General of Turkistán, ordering him to make a demonstration from his District to distract the attention of the Marv-Turkumáns and to prevent them from coming to the assistance of those of Akhál. General Kaufmann replied that he thought that he could spare a force of 10 companies, 2 *sotnias*, and 4 mountain guns to move from Petro-Alexandrovsk and Katti-Kurgán on Chahárjui or Burdálík and so equipped that, if necessary, they could cross to the left bank of the Oxus, but to carry this out, he requested an extraordinary credit of 600,000 *roubles*. This large expenditure caused the idea to be abandoned, and the only measure taken was to order the 8th Turkistán Line Battalion, which was *en route* from Katti-Kurgán to the Amu-Daria District to relieve the 5th Battalion, to march along the river, in the hope that this movement of troops along the Oxus might do something towards diverting the attention of the Marv-Tekkes.

Returning, after this short digression, to the description of the military operations in Trans-Caspia, we must begin at the disembarkation of General Lazareff on the east coast of the Caspian, which took place immediately after his appointment to the temporary command, and some time before the troops told off for the Expedition were concentrated at Chikishliar.

After visiting, during the month of March, Krásnovodsk, Chikishliar, and Chát, and inspecting all the troops stationed thereat, Lazareff returned to Tiflis having expressed himself in the most flattering terms as to the state in which

he had found the troops, and the good results of General Lomakin's administration. Speaking in his report of the want of results from the latter officer's operations, he laid the blame on the system,—successive advances and retreats, and the undefined nature of our relations with the Turkumáns who acknowledged neither Russian nor Persian authority nor that of any one. Having made himself acquainted on the spot with our position amongst the Turkumáns nomadising on the line of our communications with Chikishliar, he at once recognised that it required to be more clearly defined, and immediately appointed two prefects (*Pristávs*) at Chát and Chikishliar, under whose orders were placed all the Yamúts nomadising near those fortresses. These Turkumáns expressed their readiness to fulfil all our desires, and Lazareff explained to them that, as they lived on Russian territory, they must be true subjects of the ruler of Russia, and obey the established laws and authorities. At Chát some Akhál-Tekkes made their appearance, and to them he said that he was going to advance with troops and subjugate their country to Russian authority, and that it was for them to decide whether they would resist or yield, as he was determined that in any case the will of the Tsár should be fulfilled.

General Lazareff proposed to begin his forward movement from Chát, if possible in the second half of May, thinking that, by adopting some precautionary measures, military operations would be possible in the Tekke *Oasis* during the summer. He therefore asked for permission to have all the troops, told off for the Expedition, shipped to Chikishliar, including also the 4 battalions of the reserve which it had been proposed to form on the west coast of the Caspian. He anticipated no special difficulties in the way of foraging the cavalry.

For the concentration of the Expeditionary Force at Chikishliar, the Commander of the Expedition gave the following orders:—(1) Lomakin was to proceed with the formation of 5 *sotnias* of militia from amongst the Yamúts, Tekkes, and Khivans;* (2) to meet losses amongst Artillery, Cossack, and draught horses, Lomakin was to buy 400 horses of local breeds; (3) on the road from Chikishliar to Chát, wells were to be dug for the use of troops marching up; (4) at Chikishliar a quay was to be run out to a depth of 4 feet of water; (5) the furnishing of means of transport, besides the camels purchased by Lomakin in Khiva and Mangishlák, was entrusted to the contractor, Karganoff, who was to deliver at Petrovsk 1,500 Nagai carts, with horses, harness, and drivers.†

"As far as one can judge," wrote General Aide-de-Camp Prince Sviatopolk-Mirski to the Commander-in-Chief of the Army of the Caucasus on the 7th (19th) April, "this (General Lazareff's) journey in Trans-Caspia has produced a most excellent impression, and has inaugurated as it were a new era in the life of our troops, and in that of the inhabitants of that region."

After Lazareff's departure from the district, the Tekkes attacked the peaceful Turkumáns close to Krásnovodsk on the 7th (19th) April, drove off large flocks of sheep, and seized several Turkumán women; and, not content with this, they fell on the camels which were being brought from Mangishlák for the use of the force, and carried off 200 head. Two companies of the Krásnovodsk Local Battalion were sent out to cut off the retreat of the enemy, and, after a sharp affair the same evening, in which the Tekkes charged

* Lazareff proposed to enrol a 6th *sotnia* of natives of the Trans-Caucasus and he contemplated bringing the total number up to 10 *sotnias*.—*Author*.

† The latest date for the delivery of the carts was to be the 1st (13th) June. They were to be shipped to the east coast of the Caspian at Government expense.—*Author*.

several times, sword in hand, several thousand sheep were retaken, but the camels were driven away; our loss was 4 soldiers killed and 12 wounded.

In the meantime the troops detailed for service on the east coast of the Caspian began gradually to arrive at Chikishliar, but the transport of supplies was very slowly carried out, the cause of this being the extreme unfitness of the Chikishliar roadstead.

In it steamers burning naphtha have to lie two miles from the shore, while steamers using anthracite, and therefore requiring 5 hours to get up steam, have to anchor $3\frac{1}{2}$ miles off. Sailing ships have to lie so far out that they can hardly be seen from the shore. These ships had all to be unladen at such great distances by Turkumán boats, that, during the prevailing north-west winds the boats had sometimes to tack about for 5 or 6 hours before reaching the ship they were to unload. They had therefore to be towed, and the only steam pinnace then at Chikishliar could only tow three or four such boats at a time. Application was made for another pinnace, but towards the end of May instead of it was sent the light-draught steamer *Arax*, which was of great use, as it could tow 25 boats at once. Unfortunately at that time of year, storms are of frequent occurrence, and they sometimes put a stop to all unloading for days together.

When describing the difficulties of unloading, the damage suffered by the engines of the *Arax*, and the destruction of the dykes and quay, constructed to obviate the necessity of the men going into the water, by the storms of the 6th (18th) and 7th (19th) June, General Lazareff said: "Here at Chikishliar is our school of patience!"

The troops arrived quickly at Chikishliar,* but supplies came in very slowly; so much so that the biscuit ration had to be diminished. This was the consequence of transporting troops first and stores afterwards. Much time was thus lost, as equilibrium had to be established between the transport of stores and the requirements for them. Matters were so bad that for several days the troops could not cook for want of firewood.

The calculations as to means of transport were not fulfilled, as the Yamúts brought fewer camels than were expected. As it was impossible to obtain grain on the road from Chikishliar to Chát,† the number of *arabas* in Kargánoff's transport-train had to be diminished, and each of them had to carry food for its own horses for the march there and back. As a climax to everything, when stores had to be moved up to Chát, to form an advanced magazine, it was found that there were no ropes for the pack-loads and no money to buy them in the field treasure chest.

On the 1st (13th) June, the troops of the Expeditionary Force were distributed as follows:—(1) At Chát 3 battalions, 2 *sotnias* and 8 guns; (2) on the White Hill to protect the camels out grazing, 2 *sotnias* and 2 companies; (3) at Chikishliar, 8 battalions, a division (2 squadrons) of dragoons; 8 *sotnias* of irregular cavalry and 14 guns. Of the cavalry, 6 *sotnias* had been sent on the 5th (17th) June to the Atrak, to prevent the Yamúts, who had to furnish camels, from crossing to the left bank. The rest of the troops were still on the west coast of the Caspian.

* One battalion and 6 *sotnias* had been shipped to Krásnovodsk and thence they escorted camels to Chikishliar.

For the equipment of the troops sent to Chikishliar, see Appendix III containing Circular No. 1194, dated 22nd March (3rd April) 1879, issued from the Caucasus District Staff.—*Author*.

† According to the terms of his contract, Kargánoff's *arabas* were to work only between Chikishliar and Chat.—*Author*.

On the 6th (18th) June, an advanced guard of 3 battalions, half a company of sappers, 4 *sotnias* and 4 guns, in all 2,260 men and 840 horses, was sent forward from Chikishliar to Duz-Olum, where it was proposed to construct an advanced depôt. It had also to repair the road and dig wells, and arrived at Duz-Olum on the 17th (29th) June.

At this time reports were received by the Staff to the effect that the Tekkes intended offering a strenuous resistance, and had occupied Kári-Kala, intending to cut off the water from the river Sumbár. The advanced guard was, therefore, reinforced by a battalion, and its commander, Colonel Prince Dolgorukoff, was ordered to drive the Tekkes from Kári-Kala if they attempted to defend it, to occupy Társakan, and improve the road between that place and Duz-Olum.

On the 20th June (2nd July), scouts reported to the advanced guard that parties of Tekkes under Taghma-Sirdár, Sufi-Khán, and others were marching from Kári-Kala to the pasture lands of the Ak-Atabais with the object of plundering them. Prince Dolgorukoff, with a flying column of 3 companies, 3 *sotnias* and 2 mountain guns at once advanced up the Chandir to cut off the retreat of the raiding parties. These, however, hearing of the movement of our troops, took another route to their homes by round-about paths, after carrying off some 9,000 sheep belonging to the Ak-Atabais, half of which were abandoned on the road and recovered by the latter who were pursuing them. After this, Prince Dolgorukoff advanced on Kári-Kala to ascertain how far the reports of the projected diversion of the waters of the Sumbár were true. At Kári-Kala the Gokláns came out with expressions of joy to meet our troops, brought bread and salt, and furnished abundance of provisions and forage. The water of the Sumbár had actually been to some extent diverted. The advanced guard moved at the end of June from Kári-Kala to Társakan.

In the course of July, the camels bought, hired, or requisitioned from the Yamúts, arrived at Chikishliar, and were sent with supplies to Chát, and to the advanced guard. The requisitioning of camels in such large numbers (6,700 head) raised great discontent among the inhabitants, and the drivers, who also were furnished by the people of the district, began to desert and to carry off their animals. Dreading fresh demands for transport, the Atabais who nomadise between Shairdi and Dásh-Verdi, migrated to the Kuren-Dágh Mountains. With the departure of the Atabais our line of communication was left open to the attacks of the Tekkes, so to prevent these Lazareff placed a battalion at the wells of Dásh-Verdi.

On the 27th July (8th August) the transport at the disposal of the Commander of the Expedition consisted of 6,700 Turkumán camels, fit for service, and 156 Kirghiz jaded camels,* 337 mules, and 1,500 one-horse *arabas*. According to the Journal of Military Operations, "to obtain more camels in a short space of time was impossible, as they would have had to be brought from Persia and Trans-Caucasia, and this would have taken a long time, during which those with the Force might have become unserviceable by reason of the constant work in carrying stores to the advanced depôts. It was, therefore, decided on the 27th July (8th August) to begin the advance into Akhál-Tekke without delay, the more so as a quantity of stores had been collected at the depôts, especially at Chát and Duz-Olum, and the season was favourable for a campaign in the desert, for the heat during the day and night had diminished whilst the nights had grown longer."

* The remainder of the Kirghiz camels (3,000 head) had perished.—*Author.*

It was decided to use the 6,700 Turkumán camels for the transport of the baggage and stores of the Force, while the remainder of the transport (mules, *arabas*, and Kirghiz camels) was to be employed in carrying stores from Chikishliar to Chát and Duz-Olum. These 6,700 camels sufficed to equip a force of $8\frac{1}{2}$ battalions, 10 squadrons and *sotnias*, and 16 guns, with ammunition to the extent of 80 rounds per rifle and half the complement of rounds per gun, also a section of a field hospital. Of the above, $4\frac{1}{2}$ battalions, 4 *sotnias*, and 6 guns, and a section of the ammunition column with 120,000 cartridges formed the advanced guard.

The Advanced Guard was ordered to be concentrated at Társakan on the 5th (17th) August, and on the 7th (19th) to advance to occupy Khwája-Kala, and at once undertake the repair of the wheel road and the digging of wells half-way. The remaining troops of the field army were to be concentrated at Duz-Olum by the 10th (22nd) August, and were there to receive further orders. Lazareff's intention was to proceed as follows. At Band-Hassan and Khwája-Kala, magazines with seven weeks' supplies were to be formed; the Tekke *Elders* were to be summoned to Band-Hassan, with their families if possible, and then seized and sent as hostages to the Caucasus; a movement was then to be made into the *oasis* with twenty days' supplies, leaving supplies for one month at Band-Hassan. In this way Lazareff thought the *oasis* could be occupied without firing a shot. The accumulation of supplies at Band-Hassan was to be effected as follows:—1,500 *arabas* were to transport them from Chikishliar to Chát, 40 military waggons and 500 camels from Chát to Duz-Olum, and 2,500 camels thence to Band-Hassan. An official was also to be sent from Durun to Bujnurd to purchase supplies.

On the 30th July (11th August) the first *échelon* of troops for the Expeditionary Force left Chikishliar. They took with them supplies for 10 days, and at Chát received a month's provisions and 120 rounds per rifle. All spare baggage was left behind.

On the 5th (17th) August, 3 *sotnias* of Cossacks, under Lieutenant-Colonel Vasilchikoff, were sent to Khwája-Kala, and there they captured a flock of sheep. Large parties of the enemy came out from Band-Hassan to retake the sheep, but they were beaten off, and Vasilchikoff held his ground at Khwája-Kala till 2 battalions, 4 *sotnias* and 4 guns arrived on the 8th (20th) August.

On these troops arriving at Khwája-Kala, those in rear of them at once set to work to repair the wheel-road from Társakan and to dig wells at Márgis with the help of some natives requisitioned at Kári-Kala.

On the 8th (20th) August Prince Dolgorukoff moved on Band-Hassan with a *sotnia* and two guns with a view to finding traces of the parties which had fought against us on the 6th (18th) August, and ordered three companies, which had been left at Kári-Kala, to stop the diversion of the waters of the Sumbár, to move on the same place. On arrival at Band-Hassan Prince Dolgorukoff did not find them but he ascertained that a large body had been gathered there and had crossed the hills and gone partly into the desert and partly to Gok-Tapa.

When it became known that General Lazareff had arrived at Chikishliar with the intention of subjugating Akhál-Tekke, a *Jum-Gurie* was summoned at Askhabád to consider the means of defence.

Nur-Verdi-Khán was at that time at Marv, and his son, Berdi-Murád-Khán, ruled in Akhal; but he, on account of his youth, was under the guardianship of two influential men and near relatives of Nur-Verdi-Khán, *viz.*, Oráz-Muhammad-Khán and Kurbán-Murád-Ishán.

On their advice, it was settled not to allow the Russians to enter Akhál and to assemble a force of 6,000 mounted and dismounted militia in the pass of Band-Hassan.

When our Advanced Guard advanced on Khwája-Kala, the Tekke cavalry came out to oppose them, and a skirmish ensued, the result of which was that the enemy retreated not only from Khwája-Kala, but also from the Band-Hassan pass, and only halted at Burma, where it was decided to assemble all the inhabitants of Akhál at Gok-Tapa, and to notify this in all the *auls*, and to Nur-Verdi-Khán at Marv. The militia who had retired from Band-Hassan to Burma, halted two days there to cover the retreat of the emigrants.

The inhabitants of Kizil-Arvat and Burma, who belonged to the clans of Sufi-Khán and Taghma-Sirdár, who had been sent to our camp, to endeavour, by diplomacy, to stop the advance of our troops, retired into the desert and not on Gok-Tapa. The poor inhabitants of Archman, in all 60 families, who had no means of transport, remained in their homes and resolved not to defend themselves, but, with this exception, the people of all the settlements between Kizil-Arvat and Gok-Tapa gathered together at Kuhna-Gok-Tapa. The people of the villages between Gok-Tapa and Gávans remained in their homes, except the men capable of bearing arms, who joined their brethren in the fortress. Not a single *Charva* joined them. A new *Jum-Gurie* was convened at Gok-Tapa, at which war was unanimously decided on, and it was resolved to raise fortifications round the hill of Dangil-Tapa, and to defend themselves to the last drop of their blood. Kuhna-Gok-Tapa, which was situated among sands and had the additional disadvantage of its water-supply being easily cut off, was abandoned.

Work was immediately begun upon a fortress of such dimensions as to hold all the assembled inhabitants, which received the name of Yangi-Shahr (New Town).^{*} The construction was directed by Berdi-Murád-Khán, Oráz-Muhammad-Khán, Hazrat-Kuli-Khán, and Oraz-Durdi-Khán. On every ten families was imposed the task of building a part of the wall, old men, children, and women all helping.

When our troops arrived on the 28th August (9th September) 1879, the southern part of the fortress was not quite finished, the eastern face was only half completed, and on the other side the walls had not attained the desired height, as all the *kibitkas* were visible.

To scatter the rest of the parties who had attacked our cavalry on the 6th (18th) to set free a soldier who was, according to rumour, a prisoner at the wells of Niáz, and to seize camels and sheep, the Commander of the Advanced Guard determined to make a raid into the *oasis*. With this object, 4 *sofnias* of Cossacks were sent on the evening of the 10th (22nd) August from Khwája-Kala and Band-Hassan to the wells of Kára-Sengir, Jamir-Ján, Daulat, Yegían-Kazakh and Niáz, and, as a support, three companies of infantry with one mountain gun to the villages of Koj and Bámi.

The raid was a great success, for at the wells of Bámi the Cossacks surprised the inhabitants who had not yet withdrawn, prevented them from going away, captured 800 camels and 6,000 sheep, and rescued the captive soldier. On the 13th (25th) August the troops who had taken part in the raid returned to Band-Hassan to which also the other portions of the Advanced Guard had moved. On the same day Sufi-Khán and Taghma-Sirdár presented themselves before Prince Dolgorukoff to negotiate.

^{*} Nur-Verdi-Khán in his letters called it Yangi-Tapa, and the Persians named it Táza-Shahr.—
Author.

Meantime the other *échelons* of the Expeditionary Force had moved up to and beyond Duz-Olum. Although the Commander of the Expedition had suffered much from a carbuncle, after an operation, he started to join the troops, but died on his way at Chát on the 14th (26th) August. The senior officer with the force, General Lomakin, then took command.

By the 20th August (1st September) there had been concentrated at Khwāja-Kala and Band-Hassan $8\frac{1}{4}$ battalions, 2 squadrons of dragoons, 8 *sotnias* of Cossacks, 12 field and 4 mountain guns, and 8 rocket-troughs; but in consequence of the want of transport, it was decided to leave behind at Khwāja-Kala and Band-Hassan 10 companies and 4 guns, and to send 2 *sotnias* of Cossacks and 2 rocket-troughs on a raid to the *auls* of the Atabais.* The remainder of the troops, $6\frac{1}{4}$ battalions, 6 *sotnias*, 2 squadrons, 12 guns, and 6 rocket-troughs† moved on Gok-Tapa.

On the 21st August (2nd September) the troops detailed for the advance on Gok-Tapa were concentrated at Band-Hassan, and thence they moved on Bámi by the road over the pass of the Kopet-Dágh, which had been partly repaired by our troops. The descent to the *oasis* had not yet been put in order and therefore most of the carts with the army were left at Band-Hassan. The troops who remained in this place were ordered to put the descent in good order,‡ and to organise a regular line of communication between Duz-Olum and Band-Hassan. The force carried supplies for 15 days, 120 rounds per rifle, and a full supply of rounds per gun. In the ammunition column were 120,000 rounds, and there was also a small ambulance of the Red Cross with 20 carts.

The total number of transport camels was 2,350.

To make marching easier, the force was divided into two columns; an advanced guard under Prince Dolgorukoff, consisting of 3 battalions, half a company of sappers, 2 squadrons of Dragoons, 4 *sotnias* with 6 rocket-troughs, and 4 mountain guns, and a main body under General Count Borch, comprising 3 battalions, 4 *sotnias*, 4 field and 4 mountain guns. With this column marched the ammunition column and the Red Cross ambulance.

The Advanced Guard marched on the 22nd August (3rd September) and it was followed next day by the Main Body. The route taken was by Bámi, Burma, Archman, and Sunchu to Durun.

At the latter place the Advanced Guard halted on the 25th August (6th September) to allow of the Main Body coming up with it, as it was decided to advance in one column from this point. Except at Archman where there had remained about 100 families who were unable, so rapid was the advance of the

* It was considered necessary to punish the Atabais, as is mentioned in the Journal of Operations, because they had rebelliously migrated from our confines, and had caused desertions among the camel-drivers of their clan with us, who not only carried off their own, but also Government animals. Another object was to requisition transport among them. The raid was successful. The column reached the pastures of the Atabai at the wells of Danata and Kuhna-Karim on the 23rd August (4th September) drove off 1,250 camels, and returned on the 29th August (10th September) to Khwāja-Kala. Five Atabais were killed and three wounded. We lost three horses.—*Author*.

† 3rd Erivan, 3rd Georgian, 4th Kabardar, 4th Kura, 4th Shirván and the Mixed Rifle Battalion, 3 sections 3rd Company of the 2nd Caucasus Sapper Battalion, 2 Squadrons of the Pereslav Dragoons, 1 *sotnia* each from the Volga and Taman Cossack Regiments, 2 *sotnias* Daghistán Irregular Horse, 2 *sotnias* Poltava Cossack Regiment (one of them with 6 rocket-troughs), half of 4th Battery 20th Artillery Brigade, half of the 1st Terek Cossack Horse Battery, half of a Mountain Battery of the Trans-Caspian Artillery.—*Author*.

‡ It was ready in the beginning of September; 200 people from Nukhur took part in the work.—*Author*

Russians, to fly to Gok-Tapa, our troops found not a single man. The people of Nukhur opened a bazaar for our troops at Archman.

On the night, of the 26th—27th August (7th—8th September) in camp at Durun, shots were exchanged by the outpost with the enemy, and we had one Dragoon wounded, and three horses killed; on the 27th August (8th September) the force reached Yaráji.

By this time it had become tolerably well-known in the Force that, with a few exceptions, the whole population of the *oasis* had been gathered at Gok-Tapa and Askhábád, and there had determined to oppose our advance. As the enemy was, therefore, close at hand, the advance from Yaráji on Gok-Tapa on the 28th August (9th September) was carried out in three columns. The first, under Prince Dolgorukoff, consisting of $3\frac{1}{4}$ battalions, 2 squadrons of Dragoons, 3 *sotnias* (with 6 rocket-troughs), and 6 guns, advanced at 3 A.M.; the second column, under Count Borch, was made up of 3 battalions, 1 *sotnia*, and 4 guns, and marched at 4 A.M., while in the third column, under Captain Kegamoff, were placed all the camels, with an escort of 6 mixed companies, a *sotnia* of Cossacks, and 2 guns. This latter advanced at 5 A.M. The first and second columns had only their ammunition and water camels with them. The men had two days' rations, and a piece of cooked mutton each, and for each horse were carried 10·3 lbs. of oats.

When the first column had advanced $5\frac{1}{2}$ miles towards Gok-Tapa, a mass of horsemen issued from the fortress, and a part of them advanced against it, while part passed on towards the rear. Supposing that they meant to attack our third column, with which was all the transport, General Lomakin sent an order to Count Borch, directing him to halt till the arrival of the third column. Just as the 3rd column was reaching the 2nd, *i.e.*, at about 10 A.M., about 700 horsemen issued from behind Yegían-Bátir-Kala and advanced against it, but were met with artillery and rifle fire. In this skirmish, the *sotnia* of the Volga Cossacks had 4 men and 11 horses killed. The enemy was repulsed, and returned to Yegían-Bátir-Kala, and thence to Dangil-Tapa. Count Borch then continued his advance, and by 3 P.M. reached the fortress, where the first column had arrived by noon.

In the meantime the first column had by 11 A.M. approached to within 1,650 yards of the fortress and had opened fire on it from its guns. An hour afterwards, it moved forward about 800 yards to an *aul*, and prepared to attack the advanced positions of the enemy.

At the present time, when the fortress itself and its environs have been minutely described so well and the bravery and steadiness of its defenders have been once more experienced and proved, the reports of the "reconnaissance of the 28th August (9th September)," as this bloody repulse of our troops was named, read very strangely.

In these reports, even with the aid of maps and plans with profiles and even elevations of the lines of defence, it is very difficult to follow the operations.

One thing is certain, that no one of the superior officers of the force had an idea of the magnitude of the task before them. Thus, on arriving from Yaráji, Prince Dolgorukoff's column came on a very strong position between a *Kala* and a mill close to the north-west corner of the fortress, round which was a perfect network of streams and mud enclosures, and after a few shots the infantry of the advanced guard threw themselves on the enemy's position. The Tekkes were driven out of it with comparative ease; but on our infantry crossing a canal, and occupying the *Kala*, they came under a heavy

fire from the main rampart of the place. The troops halted and lay down behind the walls and banks round the mill and the *Kala*, and, keeping up a dropping fire against the defenders of Dangil-Tapa, awaited the arrival of Count Borch.

From General Lomakin's report on the affair of the 28th August (9th September), we can perceive that at this time the dangerous position of our troops was soon recognised. The report says: "The defenders of the mill were in a position to judge on what a desperate defence the Tekkes had resolved, as only death caused the cessation of their resistance."

At the same time that the infantry attacked the enemy's first position, the cavalry had passed round the north of the fortress to the second mill, and had some skirmishing with the enemy's cavalry, who were soon driven into the fortress.

Such was the state of affairs when Count Borch came up at 3-30 P.M., and after a short halt, moved his troops forward to storm Dangil-Tapa.

The troops were disposed as follows:—Against the north face of the fortress were directed 2 battalions and 6 guns, and against the west face $3\frac{1}{2}$ battalions and 2 guns. Six hundred yards from the latter, the transport was packed and guarded by 6 mixed companies, 1 battalion, and 2 *sotnias*. On the Askhabád road, to observe the enemy's movements, were 2 *sotnias* and 2 guns.

Before the storming columns advanced, fire was opened on the fortress at first from 6, and afterwards from 8 guns, with great effect, as deserters were soon seen running from the eastern face towards the cavalry, and begging them to put a stop to the firing and offering terms. General Lomakin sent Staff-Captain Yaguboff to them to say that for any negotiations of this kind the *Isháns*, *Kháns*, and *Aksakúls* must come out. "It was evident," writes the Commander of the Force in his report, "that the Tekkes were only trying to gain time so as to evacuate the fortress in the night; some caravans actually left it, but were driven in again by our cavalry." He adds that, wishing to take advantage of the panic which our artillery fire had caused in the fortress, knowing too that all the Tekke population was concentrated there, and recognising the impossibility of keeping the troops much longer in action, as the supply of provisions was very small, he gave the order for the attack. At 5 P.M., on a signal given by a salvo of 4 guns, the attack began.

The troops advanced with a rush, but, on reaching the wall, were beaten back and forced to retire in disorder, and the Tekkes rushed forward to complete the confusion in our ranks. Thanks, however, to the excellent handling of the half of the 4th Battery, 20th Artillery Brigade, and the arrival of a fresh battalion from the Transport Park, the enemy was driven back into the fortress.

Out of the 3,024 men who took part in the action, we lost 453, including 7 officers and 170 men killed, 20 officers and 248 men wounded, and 8 men missing.

During the night the force withdrew to its Baggage Park, and early in the morning of the 29th August (10th September), it was decided to retire to Kári-Karez. The troops moved in square, and large bodies of the enemy followed and were several times fired at by the artillery.

On the 30th August (11th September), the force continued its march, and on the 3rd (15th) September arrived at Burma, followed only by a few of the enemy's mounted scouts. Here a halt was made for two days.

On the 6th (18th) September, at a Council of War held by General Lomakin, the impossibility of the force remaining in the *oasis* was recognised, as the amount of transport and the supplies of food were quite insufficient, and therefore the Commander of the Force decided to cross over on the same day to Band-Hassan; a report that the Tekkes intended to attack the Atrak line serving to confirm his decision. Even here it was found impossible to remain for the same reasons, and the troops continued their retreat to Tárसान, where they arrived on the 16th (28th) September, the greater part of the cavalry having been sent on to Duz-Olum.

At Tárसान, orders were received from the newly appointed Temporary Commander of the troops of the Trans-Caspian Military District, General Tergukásóff,* to halt there till his arrival.

After the withdrawal of our troops from Gok-Tapa to Tárसान, when Lieutenant-General Tergukásóff arrived in the district in the middle of September, the state of affairs was as follows:—At Chikishliar there was a garrison of 3 battalions,† 3 *sotnias*,‡ and two 4-pounder unhorsed guns of the Trans-Caspian artillery, both unserviceable. According to Tergukásóff's report, their vent pieces were worn out, and not only was it impossible to fire service charges from them, but firing with blank cartridge even was very difficult "as was seen when a salute was fired at the funeral service of General Aide-de-Camp Lazareff."§ In the magazines there were 750,000 cartridges for the Berdan Infantry Rifle, 450,000 for the Berdan Cavalry Rifle, and 140,000 for the Krinka Rifle. There was no artillery ammunition, except that in the limbers and waggons of the two guns.

In the supply depôts there were provisions for 1½ months for 10,000 men.

The hospital was formed of *kibitkas* of bad felt, "in consequence of which the patients and medical attendants were literally swimming during the rains." There were no hospital stores, and only three surgeons, including the Principal Medical Officer. No contract had been made for food-supplies for the hospital, and great difficulty was therefore experienced in obtaining them, as the Chikishliar hospital was not independent, but only a branch of the General Field Hospital of the force. The Principal Medical Officer with the force, the Controller, and the Commissary-General were at Chát, and therefore, for the purchase of all small stores, sanction had to be obtained from that place. According to the original plan, the Force had been supplied with a hospital with 600 beds, so that when the forward movement took place, it might be divided into three sections; but it had been overlooked that it was absolutely necessary to make each such section independent.

The sick were shipped off to Petrovsk in men-of-war or trading ships, and did not receive cooked food on board. As the schooners of the "Caucasus and Mercury Company" only took sick from Chikishliar to Baku, they had to be re-shipped in mail steamers bound to Petrovsk where they were put into the local hospital in which there was neither room nor hospital supplies to meet their requirements.

In the treasury there were 118,000 *roubles* in cash, 24,000 *roubles* in silver change, and 194,000 *roubles* in credit notes. As the troops of the active

* Commander of the 2nd Caucasus Army Corps.—*Author*.

† Of the 4th Apsheron, 4th Daghistán, and 3rd Sámur regiments respectively.—*Author*.

‡ Two *sotnias* of the Poltáva, and 1 *sotnia* of the Taman Regiment.—*Author*.

§ The sentences in inverted commas are extracts from the report of General Tergukásóff to the Commander-in-Chief.—*Author*.

army had for a long time received no pay, the greater part of this money had to be sent up to the front; and at Chikishliar there only remained 9,228 *roubles* in credit notes, and 42,140 in bank silver. Moreover, 82,280 *roubles* had to be paid to the Jafarbais for 1,338 camels purchased from them in July. All operations had, therefore, to be stopped for want of money, including the transport of supplies from Chikishliar to the advanced magazines at Chát and Duz-Olum on hired Turkumán camels. The telegraph to Astrábád was not yet ready.

The garrison of Chát, consisted of 1 battalion,* 1 *sotnia*,† and 4 garrison guns, of which two were unserviceable on account of defective vent-pieces. In the magazines there were 678,600 cartridges for the Berdan Infantry Rifle, 145,200 for the Cavalry Rifle, 2,080 rounds of artillery ammunition, and 340 war rockets.

In the supply depôts there were biscuits, groats and flour for 10,000 men for 140 days, oats and cakes for 5,000 horses for almost a month, and tinned provisions for the whole force of different kinds for 1½, 2½, and even more months; there was no hay.

The hospital was in *kibitkas* and hospital tents, but none of the former were serviceable. "If the Chikishliar *kibitkas* were bad, those at Chát were beyond all description." In spite of the bad condition of the *kibitkas*, the sick were well looked after in the hospital. A third of all the patients were suffering from scurvy, most of them belonging to the battalions of the Alexandropol and Akháltikh Regiments, which had been with the Rion column during the Turkish war, having been brought to Trans-Caspia in the spring of 1879.

The garrison of Duz-Olum consisted of 6 companies, 8½ *sotnias*, 2 squadrons of Dragoons, and 4 horsed guns.‡

There was no hospital, and a supply depôt could hardly be said to exist, as there were in it only 2,446 cwt. of biscuits, 44·8 cwt. of groats, a small quantity of different kinds of tinned provisions and 480 cwt. of biscuits. There was no hay.

At Társakan were 9¼ battalions, 3½ *sotnias* and 16 guns.§ These troops were found by Tergukásóff to have been very much weakened by disease and loss in battle, and, as he reported to the Commander-in-Chief, "notwithstanding their splendid appearance, it was impossible not to perceive the general air of dejection caused by their great losses on the 28th August (9th September) and during the retreat from Gok-Tapa. No songs were heard, and all were melancholy." The General visited the camp several times, thanked them in the name of the Commander-in-Chief for their services, and distributed two crosses of the Military Order to each company, *sotnia*, and half-battery. The troops soon became more cheerful, songs were heard, and the recipients of the crosses were congratulated. There were no supply depôts, and some corps

* The 4th Battalion of the Navaga Regiment.—*Author*.

† Of the Volga Regiment.—*Author*.

‡ The 4th Battalion of the Akháltikh Regiment, 2 companies of the 3rd Battalion of the Daghistán Regiment, 4 *sotnias* of the Daghistán Irregular Cavalry, 1 *sotnia* each of the Laba and Volga Regiments, 2 *sotnias* of the Taman Regiment and ½ *sotnia* of the Poltáva Regiment, 2 guns Krásnovodsk Artillery, 2 guns 4-20th Field Artillery Brigade.—*Author*.

§ 3rd Battalion of the Erivan Regiment, 3rd Battalion of the Georgian Regiment, 4th Battalion of the Kura Regiment, 4th Battalion of the Kabarda Regiment, 3rd Battalion of the Apsheron Regiment, 3rd and 4th Battalions of the Shirván Regiment, 2 Companies of the 3rd Battalion of the Daghistán Regiment, 4th Battalion of the Alexandropol Regiment, of one Mixed Rifle Battalion, one Sapper Company, 1 *sotnia* of the Taman Regiment, 1 *sotnia* of the Laba Regiment, 1½ *sotnias* of the Poltáva Cossack Regiment, 6 guns, 4th Battery, 20th Brigade, half a Mountain Battery, 2 guns of the Trans-Caspian Artillery, and ½ Battery of the Terek Cossack Contingent.—*Author*.

had provisions only enough to last till the 25th September (7th October) and others till the 27th September (9th October).*

As there was no hospital, the sick and wounded were attended to by their own corps, except the worst cases, which were in the charge of the Red Cross Ambulance.

At all the named places the troops were in portable tents, which was a fruitful cause of sickness, as the men were neither protected from the snow nor from the winds.

There were neither fur coats nor warm clothing, and the want of these was felt during the cold nights under the wretched shelters, and produced much sickness among the men.

Except dried and preserved vegetables, the troops had no green food, and they could not fill the place of the cabbage which is so necessary for a Russian's well-being and on which he has been brought up.

Out of the 12,273 camels† which had at various times belonged to the army, only 3,896 were left, of which 1,761 were hired and 2,135 belonged to Government. Half of these were at Duz-Olum recovering from their fatigue, and half with the troops at Târsakan.‡ There were saddles for only half this number of camels, and "the condition of the greater part of the animals was most dreadful." Of the 2,135 Government camels, only 300 were serviceable and the rest could hardly move their feet. Of the camels at Duz-Olum, dozens died every day, as all the forage had been eaten up, and on their return from the watering-place at the river to the place where they were usually kept at night, they could hardly ascend the wheel road; many fell down half way and never rose again. Round Duz-Olum and Târsakan lay thousands of bodies of camels and "complete chaos reigned in the Transport Department. The chief of the transport was at Duz-Olum, but he could not get escorts to take the camels 4 miles out of camp to places where there was forage, and the officers in charge of sections of the transport had in reality no sections to command. The drivers, seeing that their camels were being transferred to other people, deserted, and their places had to be taken by private soldiers. In a word, "the camel transport was in fearful disorder."

The cart-transport formed by the contractor Kargánoff had been diminished by half, and drivers refused to engage in the place of those who had died. The want of strength and the worn-out state of the horses of the remaining carts did not permit of any calculations being made upon aid from this species of transport.

The militia were "in complete disorder. A large number of them were men who were performing different special duties with the army, and though there were 600 on the muster-rolls, hardly more than 300 were present."

The Staff of the Force consisted of 60 persons, "about half of whom were men who, bearing various titles, were said to be *on special service* with the General Commanding, but who in reality had no work whatever to do. Nevertheless they were in receipt of a field allowance aggregating 40,000 *roubles* a month, not to speak of the large number (340) of transport camels required for the heavy baggage of those attached to the Staff." In

* Tergukásóff arrived at Târsakan on the 21st September (3rd October) 1879.—*Author*.

† 3,030 Kirghiz and Khivan hired; 2,163 hired from the Turkumans nomadising between the Atrak and Chandir, 2,737 hired from the Jâfarbais and Atabais, 2,843 purchased from these tribes, and 1,500 captured from the Tekkes.—*Author*.

‡ A small number of utterly jaded camels were at Chikishliar.—*Author*.

addition to this an entire *sotnia* of Cossacks was employed as orderlies for the Staff.*

There was no permanent communication between Chikishliar and the advanced posts, and all the letters received by the Chikishliar postal section on the 1st (13th August) lay undelivered till the 17th (29th September).

"There were not chaplains enough with the troops, and the priest at Chikishliar, a decrepit invalid, had neither robes, nor vessels, nor books, nor materials for the Sacraments, so that he could not hold ordinary Divine Service."

"The troops at the front had received no pay for several months, because there had been absolutely no money in the treasure chest of the Force. Except those on the Staff, no one had any ready money."

"No payments for the hire of camels and camel-drivers had been made from the day of their engagement, as there was no money for that purpose, and the Kirghiz drivers had received pay only up to the 26th July (7th August)." A sum of 80,000 *roubles* was also owing to the JáfARBais for camels bought from them.†

This was the state of affairs found by General Tergukásóff in the latter half of September. The disorganisation was complete, and it was not only out of the question to think of beginning military operations again, but it was found impossible to remain even at Társakan, as there were no means of transport, and the nearest magazines, and those very badly furnished ones, were at Chát, 51½ miles off. General Tergukásóff found also another reason for not remaining at Társakan, and that was the plain on which the camp was situated, was surrounded by almost vertical hills, so that it was commanded on all sides. During the heavy rains, the water of the Sumbár burst its banks and inundated this plain; in short there was no place in the environs, which was not either flooded or commanded from the heights. Finally, a large number of corpses of camels poisoned the air all round.

For all these reasons, the Officer Commanding the troops resolved to evacuate Társakan as soon as he could. Accordingly between the 23rd and the 27th September (5th and 9th October) all the troops were sent off either to Duz-Olum, Chát, or Chikishliar and thence they were shipped to the west coast of the Caspian, as the General saw no immediate prospect of resuming military operations. If he had kept on the east coast all the troops which had been brought there in 1879, he would have been committing the same mistake as his predecessors, *i.e.*, letting his troops eat up the supplies as they were brought over. This reasoning applied not only to Chát, but even to Chikishliar, not to speak of Duz-Olum. The troops concentrated at those places were in a critical position, which sooner or later might end in a disaster; and therefore Tergukásóff came to the conclusion that offensive action against the *oasis* was only possible after the accumulation at Duz-Olum of sufficient

* According to an old custom, Cossacks were always detailed as personal servants to the Staff; but when General Skobelev took over command, he put a stop to it by his order No. 79 of 4th (16th) June. "I think it necessary to define strictly the number of Cossack orderlies for the Staff as follows:—For myself, 2 and 1 trumpeter, Chief of the Staff 1, Major-General Petrúsevitch 1, Colonel Malam 1, the Senior Aide-de-camp 1, Captain Melnitski 1, Captain Baranok 1, and two Cossacks between Staff-Captain Erdeli, Sub-Lieutenant Kaufmann, Ensign Ushakov, and Surgeon Studitski, as they may have to follow forced marches of the cavalry. The remaining Cossacks, now employed as orderlies to officers not named above, are to be returned to the ranks, and henceforth no orderlies are to be told off except with my express permission. This order will come into force on the 5th (17th) June."—*Author*.

† General Tergukásóff's report to the Commander-in-Chief of the Army of the Caucasus, dated 18th (30th) October 1879, No. 3681.—*Author*.

supplies for a considerable force for at least six months. The concentration of these supplies would take some time, during which the only use for the troops would be to garrison the various points occupied—Duz-Olum, Chát, and Chikishliar, and for these duties a much smaller force than that then stationed on the east coast of the Caspian would suffice. The General, therefore, resolved to diminish the force under his orders by 8 battalions, the division of Dragoons, 10 *sotnias*, and half a Cossack battery, which he sent to the west coast of the Caspian.* The transport of these troops began on the 12th (24th) October, and was only finished by the 10th (22nd) December. The Trans-Caspian Artillery, which it was proposed to reorganise, was also sent away from the Force. Lastly, one *sotnia* of the Laba Regiment was sent to Krásnovodsk, the other to Fort Alexandrovsk.

A gigantic work was before General Tergukássoff in the bringing into order the troops and administration on the east coast of the Caspian.

He began by sending away all officers who had no special duties, and suppressing the appointments of commanders of the infantry, cavalry, artillery and lines of communication.

His measures for the reconstruction of the administrative service and the reorganisation of the troops were as follows:—The unserviceable guns at Chát and Chikishliar were exchanged for serviceable ones. Four hundred *kibitkas* were brought to replace the tents of the troops, 6,400 cwt. of cabbages for *kvass*† were contracted for. To prevent an outbreak of scurvy, the daily ration of cabbages was increased to 9 per man, for the period up to the 1st (13th) April 1880, half of them being served out in a dried state. A regular scale of rations for the troops was established, and in the event of cold weather, the daily spirit ration was to be increased to 4 *poluchárs* (half measures) a month. The Chát and Chikishliar hospitals were placed under independent control and adapted for 200 men each, with supplies for that number of patients. Surgeons were asked for for the Chikishliar hospital. A hospital with 36 beds was formed at Duz-Olum. Coverlets were applied for for the hospitals at Chát and Duz-Olum, and wooden huts were built for that at Chikishliar. All the troops were paid up to date. Two chaplains were asked for. The militia were reduced to two *sotnias*, and these were divided amongst the posts at Duz-Olum, Chát, Yágli-Olum, Karája-Bátir, and Chikishliar. The line of communication between Chikishliar and Chát was changed to that by Karája-Bátir, and a regular postal service was organised between Chikishliar and the advanced posts. At Chát a Postal Department was established. The accounts of the camel transport were overhauled, and the transport was broken up from the 1st (13th) October. For the hired camels with drivers, as compensation for losses of camels and to the Kirghiz drivers with the Government camels, 252,000 *roubles* were paid. The Jáfarbais too received for the camels purchased from them 80,000 *roubles*. Of the Government camels, 720 were given to the Turkumáns (instead of 50 *roubles* for each camel which had died) and 283 were distributed to the same number of drivers with the Government camels as a reward for their services. Three camels were given to each company and *sotnia* to assist the horses of the soldiers' messcart, and the others were distributed

* That is all battalions which had been in the action of the 28th August (9th September) or which had suffered heavily, viz., the Erivan, Georgian, Kura, Kabarda, (4th) Shirván Alexandropol and Akhaltsikh Regiments and the Mixed Rifle Battalion. The two latter had not been in the action of the 28th August (9th September) but had suffered heavily from scurvy. Of the Cavalry allowed to leave were 2 *sotnias*, Volga Regiment, 6 *sotnias* of the Daghistán Irregulars, and 2 squadrons 18th Dragoons—total 5,058 men and 2,129 horses.—*Author*.

† A liquor which is generally prepared from rye flour and malt.—*Rev*.

amongst the Turkumán *auls*. At Duz-Olum there was formed a small detachment of scouts, so as to have people perfectly acquainted with the environs and to prevent small parties of robbers from roaming near the fortress and taking advantage of our negligence. A contract was made with the "Caucasus and Mercury Company" to convey sick from Chikishliar to Baku, and to provide them from the refreshment bar with dinner and tea. The hospital of the Local Battalion at Baku was enlarged by 70 beds for the temporary accommodation of sick shipped from Chikishliar to Petrovsk. An unloading service was organised at Chikishliar, and coolies were hired for it in Baku, and the whole were put under a naval officer. The quay at Chikishliar was widened. Hay was contracted for at Chikishliar. The troops were provided with fur coats. A telegraph line was constructed between Chikishliar and Chát, 90 miles long. The prefectures of Chát and Chikishliar were abolished as being perfectly useless. Finally, an arrangement was made that the men-of-war at the disposal of the Commander of the Force should sail twice a month between Chikishliar and Baku, and with the "Caucasus and Mercury" steamers maintain regular postal communication once a week, each steamer calling at Krásnovodsk, both going and coming.

The troops remaining in Trans-Caspia were distributed as follows:—At Duz-Olum, 3 battalions, 2 *sotnias* and half a field battery,* at Chát 3 battalions, a company of sappers, 2 *sotnias*, half a field battery and 4 garrison guns,† and at Chikishliar 2 battalions, 4 *sotnias* and 2 garrison guns‡; total 5,500 men and 1,900 horses.

The supply of the troops at Chát and Duz-Olum was the most important care of the General. The transport of supplies to the former had been secured in the middle of September, although at one time it had to be stopped for want of money in the treasure chest. The contractor, Lieutenant-Colonel Shtsherbina, had engaged to transport every month 20,480 cwt. of stores, at 1 rouble per *pud* (36·1 lbs.), on Turkumán camels, and a contractor was found to deliver hay at Chat at 1 rouble 20 *kopecks* a *pud* (36·1 lbs.). The Turkumáns who carried the provisions stipulated that no escort should accompany them, and that they should be completely free to choose the time they would spend on the journey, the points of passage on the river, and their camping grounds. This was granted, but parties of cavalry were posted between Chikishliar and Chát to superintend the movement of the caravans.

As for the Duz-Olum magazine, its supplies had at the end of October become so reduced§ that it was impossible for the troops to remain there much longer. For one month's supply of the Duz-Olum garrison, consisting of 2,000 men and 450 horses, there were required 4894·72 cwt. General Tergukásoff proposed to throw in not less than 6 months' supply, so that they should not have to live from hand to mouth, and be reduced to a critical position at every stoppage in the transport. He first of all sent up army waggons with the most necessary supplies from the Chát magazine, and then formed a transport of 300 serviceable camels; but as Kirghiz or Turkumán drivers could not be hired, he was forced to use soldiers as drivers.

* 1st and 4th Battalions of the Apsheron and the 3rd Battalion of the Daghistán Regiment, 2 *sotnias* of the Peltáva Regiment, and half of the 4th Battery, 20th Artillery Brigade.—*Author*.

† 1st and 3rd Battalions of the Sámur Regiment, 4th Battalion of the Daghistán Regiment, 2 *sotnias* of the Peltáva Regiment, half of the 4th Battery, 20th Artillery Brigade.—*Author*.

‡ 4th Battalion of the Navaga Regiment, and 3rd Battalion of the Shirván Regiment, 4 *sotnias* of the Taman Regiment.—*Author*.

§ 2,080 cwt. biscuits, 8 cwt. groats, 64 cwt. horse-biscuits, 80 cwt. oats, and the smallest quantity of different preserved provisions.—*Author*.

This transport could in one journey carry 518·4 cwt.,* or in four journeys during a month 2073·6 cwt.; but this was 2821·12 cwt. less than the required quantity per mensem. In three weeks 96 of these camels perished, and it became evident that this measure was of no use, and therefore the rest were sold by auction. The army waggon were also unable to carry stores to Duz-Olum, as most of their wheels had gone to pieces. It was therefore decided to contract with Lieutenant-Colonel Shtsherbina to carry supplies to Duz-Olum at one *ruble* 21 *kopecks* a *pu*d (36·1 lbs.). When the nomad Turkumans crossed over to the right bank of the Atrak, there began to be abundance of camels, and Turkumans even offered their services to us. The transport by contract was a great success as regards quickness of delivery; but the want of care shown by the drivers for Government property caused a good deal of loss and damage to the stores sent by these caravans. For instance, the *kibitkas* which had been brought to Chikishliar with great care were delivered in a very bad state at Duz-Olum and Chát; felts had been lost, and *kibitkas* which had been provided with double felts arrived with single ones only, &c.

Notwithstanding the diminution in the strength of the army, General Tergukássoff asked that the orders given by the Intendance for the furnishing of supplies to the Trans-Caspian force till 1st (13th) July 1880 should be allowed to stand in their integrity.† When these orders were fulfilled, there would be supplies on the Atrak line for 6,000 men and 2,000 horses for a year, except in the matter of hay. Circumstances might have necessitated a sudden increase in the force in the district, and therefore it was better to have the food all ready stored than to be forced to transport it at the same time as the troops. With supplies at Chikishliar, it would have been easy to send them up in good time to the front and thus avoid those difficulties which attended the supply of troops at Chat and Duz Olum. But if a large quantity of stores was not sent to Chikishliar, the formation of reserve magazines at the front would have had to be put off to the following year. By the end of November all the stores were delivered at Chikishliar.‡

From September 1879 the troops on the Atrak line were acting strictly on the defensive, and their principal occupation was the construction of fortifications and the transport of supplies to the front.

The Tekkes had paid dearly for their success over us at Gok-Tapa on the 28th August (9th September) as they had lost 2,000 killed and wounded, principally from artillery fire, against the effects of which they had no cover. Amongst the wounded was the chief director of the defence, Berdi-Murád-Khan,§ and in his place Oraz-Muhammad-Khán was chosen.

On the evening after the battle, the Turkumans had no idea that they had won a victory, and still less that the Russians would retreat, as they expected a renewal of the attack in the night while they were gathering in their killed and wounded, and many advised submission.

Late at night a Council of *Elders*, people of note, and *Isháns* was held on the hill of Dangil-Tapa, and, after a long consultation, not-

* Taking a camel-load at 216·6 lbs. and 10 per cent. of spare camels.—*Author*.

† Biscuits 3785·6 cwt., buckwheat groats 376·64 cwt., oats 324,216 bushels, salt 1047·36 cwt., oil 1331·2 cwt., sugar 326·4 cwt., spirits 3,240 gallons, tea 10902·2 lbs., onions 520·96 cwt., pepper 23·36 cwt., laurel leaves 18·56 cwt., wheat flour 8924·96 cwt., rice 6930·56 cwt., fruit acids 256·74 cwt., garlic 146·24 cwt.—*Journal of Military Operations*, November 1879.—*Author*.

‡ Report of Lieutenant-General Tergukássoff to the Commander-in-Chief, No. 3681, dated 18th (30th) October 1879.—*Journal of Military Operations*, October, November and December 1879.—*Author*.

§ He died in two days in consequence of his wounds.—*Author*.

withstanding the dissent of Oráz-Muhammad-Khán and Kurbán-Murád-Khán, it was decided to at once send Pulát-Khán and Wafadár-Khán to ask the Russians to retire to Yegían-Bátir-Kala, and there send their demands to the Tekkes. As the deputies could not pass through our outpost chain at night, they had to put off their visit to the Russian camp till next day 29th August (10th September). At dawn the Tekkes saw with surprise that our troops had evacuated their positions and retired, and then the deputies did not follow us. The next day they found out that the Russians were retiring on Bámi, and then only did they perceive that they had won a victory. Accordingly they now gave themselves up to feasting, races, &c. All the Russian prisoners (Christians) in the fortress were killed and tallow made of their bodies,* our killed being buried quite apart from the Tekke dead.

When the Russians retired from Bámi to the south of the Kopet-Dágh, Oraz-Muhammad-Khán assembled a Council at which many upheld that the Russians would return, but the majority, including the poorer class, were of a contrary opinion, and advised a return to their own homes. This was decided upon, and the population of the villages from Gok-Tapa to Bámi left Dangil-Tapa, with the exception only of a few rich families.

At the time of our first advance into Akhál, Nur-Verdi-Khán was suffering from a dislocated ankle, but recovered in September, and at once left Marv for Askhábád, where the Akhál-Tekkes recognised him as Khán.

On his election, he at once wrote to Yár-Muhammad-Khán, *Ilkháni* of Bujnurd: "All the population of the republic (*Jum-Gurie*) of Akhál from one end to the other are united, and have with one accord in public assembly given me the supreme power over the country. I thought it my duty to accede to their wishes."

He assembled a Council at Izgent, and there it was decided that, as the Russians might return again to attack the country, the fortifications of Dangil-Tapa should be finished, and that a thousand of the richest and most respected families of the Tokhtamish and Utamish tribes should settle round their Khán. To protect the country and perform police work, a force of a thousand mounted *farráshes* was to be raised and placed under the command of Ahwáz-Durdi-Khán (of the Siehmaz clan). Oráz-Muhammad-Khán (of the Bek clan), Murád-Khán (of the Wakil clan), and Hazrat-Kuli Khán (of the Bakhshi-Dashayak clan). Contributions in kind were to be furnished for the support of these men. Although Taghma-Sirdár and Sufi-Khán had for a long time been amongst Russians, they were not declared traitors; but the former was ordered to make constant attacks on the Russian position and convoys, and inflict as much harm as possible upon them, seizing the *Jigits* and gathering information.

Nur-Verdi-Khán hastened to acquaint his ally, the *Ilkháni* of Bujnurd, with the results of the conference, and wrote to him: "If the enemies of our Faith should again attack us, we have resolved to defend ourselves to the last. The whole population is unanimous in refusing to obey the Russians. The blood of the Akhál-Tekkes is different from that of the Russians, and concord is impossible between the two peoples."

In the beginning of 1880, a rumour was spread among the Akhál-Tekkes that internal troubles had forced Russia finally to give up all idea of conquering their *oasis*, and this report caused indescribable exultation among them; but now reports came that extensive preparations were being made at Chikish-

* The Tekkes say that human tallow, if applied to a wound, soon cures it.—*Author*.

liar and at Chát for a new campaign, and that the former Khivan Diwán-Begi, Mát-Murád, who had been sent to Russia at the time of the Khivan campaign, had been ordered back to Khiva to take up his former duties. The motive of this move of the Russians was considered by the Tekkes to be that, as they had been formerly subjects of the Khán of Khiva, no one better could be found than Mat-Murád to induce them to submit.

The Tekkes now began to be very much concerned about their future, and the work on the fortress, which had been only lazily carried out during the winter, was resumed with energy. Nur-Verdi-Khán looked about him for allies, entered into communication with the British Agent at Mashad, Abbás-Khán, and tried to establish more intimate and friendly relations with the *Ilkháni* of Bujnurd.

In his correspondence with the latter, he reminded him that the usages of good neighbourliness and of old friendship had bound the country of Akhál to Bujnurd (?!). Quickly succeeding differences had broken this concord at times, but nevertheless it had always continued to exist. "You have always been indulgent towards us," he wrote, "and therefore I beseech you not to be angry with me, because some robbers and villains have committed crimes on your territory. Punish them, and be assured that when I shall have completed my fortress and other measures of precaution, I shall know how to treat bad people and maintain order." He also expressed his intention of sending a few *Elders* to Bujnurd to negotiate between the *Ilkháni* and the republic of Akhál-Tekke.

At the same time Nur-Verdi-Khán invited the people of Marv to assist him in his war against the Russians. It must be noted that at the end of 1879, the Persian Government had sent an official from the ministry of Foreign Affairs, Said-Mirza-Riza, to Marv, to propose to the people of that place to submit to Persia and give up all the guns they had taken from the Persians in 1861. This last proposal the Tekkes ascribed to Russian intrigues to disarm them. Said-Mirza's mission, therefore, was not a success; the Mervtsi answering the call of Nur-Verdi-Khán, and sending 4,000 horsemen at the end of April 1880 to the Tajand. The Sáriks also sent word to say that they would render assistance.

Nur-Verdi-Khán was sick all through the winter, and in the spring left Izgent and went to live at Dangil-Tapa, where he died at the end of April.

To fulfil the decisions of the popular assembly held in the autumn of 1879 at Izgent, the Tekkes began a double course of action. On the one hand, they constantly sent small parties to our line of communications, between Duz-Olum, Chát, and Chikishliar, to seize any camels abandoned by us, and also to attack the transport animals of the Force. On the other hand, they collected in large masses to attack the Turkumáns, who, willingly or unwillingly, had taken our side during the late Expedition. Understanding well that without the assistance of the Yamúts we could undertake nothing of consequence against Akhál, and that attacks on our forts would probably be unsuccessful, they turned all their forces towards preventing the nomads from assisting us. With this object they carried out a series of raids, which in most cases were crowned with success. Thus, on the 11th (23rd) October, they fell on the Shikh *aul* near Krásnovodsk, killed 25 and wounded 5 men, carried off 100 women and children, plundered their goods, and drove off large flocks. This was done to punish them for their services to us, as most of our guides were from this *aul*.

On the 17th (29th) October a party advanced on Chikishliar, and at 13½ miles from it, captured a number of Kirghiz camels. During the night of the

10th (22nd) and 11th (23rd) November, a party of about 450 Tekkes suddenly fell on a convoy of 697 hired Turkumán camels at their camp near Lake Ak-Gol, between Karája-Bátir and Yágli-Olum, with which were supplies (oats, oil, salt, and *kibitkas*) for the Chikishliar magazine. The robbers succeeded in carrying off 187 camels, part of the oil and the oats, and the felts from the *kibitkas*, and then the party retired with the camels as quickly as they had come. During the skirmish, the Yamúts lost 2 men killed and 2 wounded. Our troops were sent after the robbers, but with no results. The success of these raids was very much due to the pools of water formed by the autumn rains, which made the desert passable in all directions, so that the robbers had not to visit the wells.

This affair showed the positive necessity of occupying Karája-Bátir and Yágli-Olum with garrisons of a company each,* and building forts there to keep open the communication between Chát and Chikishliar. The establishment of these forts prevented the Turkumáns from interfering with the transport of stores, and no further attempts were made. At the same time it was thought best to send convoys of not more than 300 or 400 head, so that half a *solnia* might furnish the escort of each, since the Chikishliar garrison could not spare more than that number of men at a time for each of the numerous convoys.

In the middle of December rumours got about among the inhabitants that the Tekkes intended to fall on the line occupied by us, and in consequence the Turkumáns nomadising within our border resolved not to remove with their flocks to the desert to the north, but to remain between Karája-Bátir and Ak-Gol. At this time Yár-Muhammad-Khán, *Ilkháni* of Bujuurd, reported at Chát that 700 Tekkes, with supplies for a month, were about to leave the *oasis* to attack our line, and as the Tekkes during their raids on the Atrak line always passed through Dásh-Verdi, our troops were moved out from Chát to that place, but finding no traces of the enemy there they returned again. On the morning of the 28th December (9th January), however, a report was received at Chikishliar from Karája-Bátir to the effect that a party of about 4,000 Tekkes were marching on Chikishliar, that the Turkumáns were leaving their *auls* and migrating beyond the Atrak, and that the drivers of two convoys sent from Chikishliar with tents, cabbages and oats had thrown away their loads, one at Lake Ak-Gol, the other near Karája-Bátir, and had gone off with their camels.

The Tekkes did not advance on Chikishliar, but fell on the Ak-Atabais who were nomadising at Lake Ak-Gol and Báyat-Háji, drove off 200 camels and 5,000 sheep, a large number of which were cut up on the spot, carried off 2,000 *tumans*⁷ worth of property, and took two Turkumán prisoners, whom, however, they released at Dásh-Verdi. Our stores which had been thrown away at Ak-Gol and which consisted of 1223·24 bushels of oats, 113 packages of cabbage (17255·8 lbs.), and 148 tents, were destroyed; but those abandoned at Karája-Bátir, which consisted entirely of cabbages, were untouched. A column sent out from Chikishliar to Dásh-Verdi saw there only the fresh traces of the raiders.

On the 2nd (14th) February 1880, news was received at Duz-Olum that a party of Tekkes, under Taghma-Sirdár, were about to fall on a convoy of 800 camels which was returning from Duz-Olum. The commander of the Atrak

* The company at Karája-Bátir was furnished by the Chikishliar garrison, that at Yágli-Olum from Chát.—*Author*.

line, Major-General Murávieff, at once sent three small columns of 4 companies, a detachment of volunteers, and $1\frac{1}{2}$ *sotnia* of Cossacks to cut them off. One of these, under Yesaul* Stankevski, consisting of $1\frac{1}{2}$ *sotnia* of the Poltáva Regiment, came up with the raiders at Khár-Olum. The Tekkes, who were 400 strong, advanced against the Cossacks; but not being able to stand up against our fire, they moved off to the hills. The Cossacks followed them up to a gorge where a hand-to-hand fight took place, in which the Tekkes were completely defeated and left 13 bodies behind. The Cossacks then pursued them for about $26\frac{3}{4}$ miles, but to lighten their horses they had to throw away the saddle-bags, belts, &c. On our side there were no losses.

On the 6th (18th) March, a raiding party drove off 300 camels from a Yamút *aul*, $5\frac{1}{2}$ miles from Chát. The same day Colonel Verjbitski, commanding that garrison, left the fort with a *sotnia* of the Poltáva Regiment and a company of the Daghistán Regiment to follow up their tracks. Catching them up $26\frac{3}{4}$ miles north-west of Chát, he retook all the camels.

Again, on the 2nd (14th) May, the Tekkes stole from Tekenjik 142 hired camels, which were returning from Duz-Olum unladen and without an escort. All the drivers were taken prisoners, but three were allowed to go free to bring a ransom of 60 *tumans* for each man.†

After each of these attacks the Yamúts nomadising in our territory had withdrawn to the left bank of the Atrak; but, seeing that we did all we could to protect them, that we had gained a success on the 2nd (14th) February, and that they could in consequence make use of their pasture grounds, they remained on the right bank of the river, except a few who crossed into Persia. The rest moved close to our forts, and as at first offered to transport supplies to our advanced posts, escorts of Cossacks and infantry being kept for caravans only. In the beginning of March, however, not a single Turkumán *aul* was left on our bank of the Atrak; all had crossed over into Persia. The population of Kári-Kala, the safety of which could not be guaranteed, also abandoned their houses and removed to the Gurgán.

The frontiers of Bujnurd and Kuchán were in their turn raided on by Akhál-Tekkes. In January, Taghma-Sirdár and Ahwáz-Keldi-Sirdár attacked a border village of Bujnurd, but were driven off by the Kurdish militia; Ahwáz-Keldi-Sirdár paid for his daring with his life, and his head, with those of the rest of the slain, was sent, according to custom, to Mashad. An attack about the same time on Firuza, conducted by Akzak-Sirdár, was also beaten off.

* Captain of Cossacks.—J. M. G.

† This was at the time when Skobelev had really taken command of the Troops operating in Trans-Caspia. In Appendix No. 4 see Skobelev's resolution on this subject.—*Author*.

CHAPTER III.

Different plans for the subjugation of the Akhál-Tekke *Oasis*—Decision of Government in March 1880—Appointment of Skobelev to the command of the Expedition—Instructions given to him.

THE Expedition of 1879, for which such great preparations had been made, had ended in complete failure, and we had only advanced 30 miles (from Chát to Duz-Olum) since 1878.

Experience had shown that success was not to be looked for so much in the strength of the troops employed, as in careful preparations for the Expedition, without which the largest army cannot attain its object.

Notwithstanding the strength of the force employed in Trans-Caspia, we had not been able to hold a single point in the *oasis*, because we had not any store depôts at hand and therefore our operations had been of the character of a raid.

From the date of the occupation of Krásnovodsk till the beginning of 1877, our Government had strictly refrained from all annexation of territory on the east coast of the Caspian, consequently the operations of all the troops in the district, except during the campaign against Khiva, were limited to reconnaissances of the country. In 1877 it was decided to occupy Kizil-Arvat, the extreme point of the *oasis*; but, on account of the want of supplies and the impossibility of transporting all its stores simultaneously, the Force had to evacuate Kizil-Arvat and return to Krásnovodsk. Thus this movement too which had for its object the retention of Kizil-Arvat when judged by its results, had, like our former operations, also merely the character of a raid. It had even led to disagreeable results, because the Tekkes, notwithstanding their defeat on the 12th (24th) May, became bolder, their robber-bands appearing close to Krásnovodsk, and even on the Mangishlák Peninsula.

The events of 1878, which had forced us to make a demonstration in Central Asia, brought the question of the occupation of Gok-Tapa again on the tapis; but at first it was decided to limit our operations to the occupation of Chát. Meantime, in obedience to earlier orders, our troops had advanced to the village of Band-Hassan, 93½ miles further, on the very border of the Tekke *Oasis*, but when the later orders were received, they again retired to Chát. The Tekkes, who had pursued the troops for three days, looked upon this withdrawal as a victory, and in 1878 became so bold that on the 23rd and 24th December (4th and 5th January 1879) they attacked Chikishliar, and on the 17th (29th) April at a point 16½ miles from Krásnovodsk drove off 217 camels belonging to a military convoy.

Thus the events of 1877-1879 shewed that the sending of, as it were, raiding parties to the Akhál-Tekke *Oasis*, as had hitherto been done, without forming store-depôts, would never lead to any satisfactory result, and that the occupation and holding of the *oasis* was only possible by regularly conducted operations.

In November 1879, General Tergukásoff had, in conjunction with General Petrúsevitch, worked out a plan for the occupation of the Akhál-Tekke *Oasis*, showing the means and time necessary.* As always happens after a failure, several other projects were made for the conduct of the Expedition, which we shall notice shortly. Let us begin with Tergukásoff's.

* Tergukásoff's report to the Commander-in-Chief, No. 4831, dated 27th November (9th December) 1879.—*Author*.

First, all the points occupied by us (Chikishliar, Chát, and Duz-Olum) were to be put on a satisfactory footing, and regular communication ensured between them. These posts might be considered properly provided for when permanent accommodation for troops and hospitals, magazines with a year's supply for the garrisons, a telegraph and a postal service had been established. After all this had been done, measures were to be taken to store at Duz-Olum at least six months' supplies for the troops undertaking the forward movement. Then only would it be possible to move on to occupy the next point.

Each newly-occupied point was to be at once connected with that behind it by a telegraph and postal line; large quantities of stores were to be thrown into it, and small works thrown up at intermediate points to ensure the safety of both. By such means alone could the *oasis* be occupied by us, for success would necessarily depend on the supply of the troops being ensured at all points, and on the concentration at the advanced posts of large supplies which would have to be brought up from the sea-coast.*

For the gradual occupation of the *oasis* according to the above procedure there would be required—(1) to hold Chikishliar, Chát, Duz-Olum, Khwája-Kala, and Burma, 5 Line Battalions on the war footing (56 files in the half company); (2) for field operations, 2 regiments or 6 battalions on the war footing, and a company of sappers;† (3) 12 *sotnias* of cavalry for active operations and the line of communications; (4) one 4-pr. field and one mountain battery on the war footing, with half an ammunition column;‡ (5) 2 field hospitals, each with 400 beds, and two ambulances with 150 beds each; and (6) a company of garrison artillery to serve the guns and take charge of the artillery depôts in the forts.§

The transport was to be divided distinctly into regimental and general. The regimental transport to be composed of the usual army waggons attached in time of war to all field troops and Line Battalions. The general (*intendance*) transport to be of two kinds:—(1) That following the troops at an interval of two or three days' march and carrying supplies for one or two months; and (2) that gradually placed upon the lines of communication as the advanced posts were pushed forward. The first description to be of carts hired from the *Molokani*, which would make us independent of the Persians or Turkumans, and the second to be contracted for, the choice of the means of transport being left to the contractor, who would select such as he thought best.

As regards ways and means, for the first year 5,000,000 *roubles* would be required; but the further we advanced, the greater would the expenses become, since the delivery of supplies to the troops would become dearer as they increased the distance from their base on the sea; and it may be assumed that the expenses would increase in geometrical proportion with the distance of the troops from that base.

To define the time it would take us to subdue the *oasis* would hardly be possible, as this would depend on so many different matters, and on

* The country between the east coast of the Caspian and the *oasis* is a desert, so that to trust for supplies to purchases in Persia, as was shown in 1879, is impossible. The resources of the Akhál-Tekke *oasis* are so inconsiderable that it can hardly support its own population.—*Author*.

† The field troops to be changed every year, as operations in the desert are injurious to the interior economy of troops, and the climate has a destructive influence on their health.—*Author*.

‡ Also 10 guns to arm Chikishliar, Chát, Duz-Olum, Khwája-Kala, and Burma. Horses for one gun and one ammunition waggon to be in each fort, in case of active operations on the part of the garrison.—*Author*.

§ At Krásnovodsk—The Local Battalion, a *sotnia* of Cossacks, four 4-pr. guns for the armament. At Alexandrovsk, a detachment and a *sotnia*, not included in the other troops, to be for local use only and as a garrison.—*Author*.

the timely delivery of supplies at Chikishliar and their transport to Chát, Duz-Olum, Khwája-Kala, Burma, and more advanced points. But if everything went well, and no delays in transport took place, we might hope to establish ourselves firmly at Khwája-Kala by the winter of 1880, so that early in the spring of 1881 we could cross the Kopet-Dágh and capture Burma. The whole of 1881 would be occupied in transporting supplies to Burma and establishing communications with Krásnovodsk. By the autumn of the same year we might move on to Durun and in 1882 to Gok-Tapa. As for the occupation of the remainder of the *oasis* up to Gávárs, it would be completed in a year after the capture of Gok-Tapa, *i.e.*, in 1883. Thus to occupy the *oasis* and establish ourselves firmly in it would take no less than four years.

In his project General Tergukásóff did not confine himself to this period, but said that the occupation of a few points in a country by troops did not mean that a firm hold had been got of it. There being no population in the country between the *oasis* and the sea, Tergukásóff thought it would be necessary to establish Russian colonies in the country, composed of the families of men of the Line Battalions, to settle them near the forts, so that these colonies would form the nucleus of fresh Line Battalions.

In considering the means of subjugating the *oasis*, General Tergukásóff went into details on the subject of our sea-transport on the Caspian. He wrote: "The best arrangements, the most systematic organisation will be rendered of no avail unless the carrying power of our naval flotilla on the Caspian be increased, as it has no ships fit to transport troops."

At the same time he adverted to the question of the disadvantages of the roadstead of Chikishliar, and of the necessity of transferring our base to another point where ships could lie alongside the quay, and he indicated Krásnovodsk and the mouth of the Black River (Kára-Su) as suitable places. The latter belonged to Persia, and Krásnovodsk could only be of importance to ourselves when it had been connected by rail with Kizil-Arvat. The construction of a railway in this direction would at once simplify the question of the occupation of the Akhál-Tekke *Oasis* and place that operation above all risk of failure.

Without such a railway we would be dependent on the Turkumáns and the Persians, for the latter could prevent the former from providing us with camels, and thus could at once stop all military operations, and even cause us to give up the points we might be holding, unless we brought means of transport from the west coast of the Caspian, and this would entail the expenditure of large sums of money. With a railway this could not occur.

General Tergukasoff concluded: "It is very desirable that our present undefined position in Trans-Caspia, caused by all our various plans, should be changed, and that the success of our undertaking should be in our own hands. This will be assured when we have a railway from Krásnovodsk to Burma, or even to Kizil-Arvat."

This plan, which required for its execution a *minimum* period of four years, and an expenditure of not less than Rs. 40,000,000 *roubles*, was evidently drawn up under the influence of our defeat at Gok-Tapa on the 28th August (9th September) 1879, and General Tergukásóff had probably taken as his model our procedure with the mountaineers of the Caucasus. But the latter is a very intersected country, whilst Akhál-Tekke has no natural defences, its population being distributed along one straight line. This plan also did not take account of any other means of transport than those which could be furnished by the Trans-Atrak Turkumáns, as if camels could be obtained only on

the Atrak,* while the transport resources of Central Asia were quite neglected.

Leaving out of consideration the expense that would have been entailed according to General Tergukásoff's plan for the subjugation of the *oasis*, the time required for its execution would have been too protracted. In the meantime, the course of events might have led to the Tekkes receiving an improved armament and to the construction of forts on the European trace in place of their straight clay walls. Nor would this have been all, for in four years the Turkumáns would also have learnt to fight like the mountaineers of the Caucasus and have made Akhál-Tekke a second Caucasus.† The longer the war with us had lasted the better would the Tekkes have learnt to fight and the less would they have feared us. In the time of Tchernaiyeff the people of Central Asia believed implicitly that when the Russians cried "hurrah!" they spat fire, that they ate babies, &c., &c. But the Central Asian believes this no longer, and sees in the Russian a man like himself, and therefore countries which in former years would be conquered by a handful of men with bayonets, now require whole armies to subjugate them. Nána-Sáhib (1857) and Vassadeo-Padke (1879) could only have appeared under the protection of English laws when the people of India had become more closely acquainted with their masters.

General Tergukásoff was prevented by illness from putting his plan into execution, and in December 1879, he asked to be relieved from his duties as Commander of the Troops in Trans-Caspia. He then crossed over to the west coast of the Caspian, and no further steps were taken to put his plan into execution. On his departure, General Murávieff, the Commander of a Brigade of the 21st Infantry Division, succeeded him.

The Caucasus authorities proposed to put one of the Generals who had distinguished himself in the Turkish war at the head of affairs in Trans-Caspia. But the Emperor thought that a most careful selection should be made of an officer who was thoroughly and practically acquainted with Central Asian warfare, and was therefore pleased to recommend Skobelev to the Commander-in-Chief of the Army of the Caucasus as his nomination.

* Tergukásoff in his report to the Commander-in-Chief, No. 3681, dated 18th (30th) October 1879 wrote: "It is impossible to reduce the amount of the payments, as if this were done, the Turkumáns, from whom alone we can purchase or hire camels, would definitely withdraw."—*Author*.
 † The following is of interest as showing the number of troops we had in Trans-Caspia from 1869-1879 inclusive:—

- 1869.—5 companies, 1½ *sotnias*, 6 guns, (1,000 men).
 1870.—7 companies, 2½ *sotnias*, 6 guns. Stolaitoff's reconnaissances to Kizil-Arvat in November with 290 infantry, 2 *sotnias*, and 3 guns.
 1871.—7 companies, 2½ *sotnias*, 10 guns. Reconnaissances—(1) to Sári-Kí'mish, 4½ companies, 2 *sotnias*, 6 guns; (2), Uzboi, 3 companies, 4 guns, 30 Cossacks; (3) up the Atrak, 3 companies, 2 guns, 15 Cossacks.
 1872.—During the first-half of the year, 4 companies, 16 guns. Reconnaissances in the second-half of the year, 12 companies, 1 *sotnia*, 14 guns (1,700 men).
 1873.—Reconnaissances on the Atrak, 18 companies, 2 *sotnias*, 9 guns. On their return from Khiva, 3 companies, 1 section of Cossacks, and 4 guns were left in the district.
 1874.—4 companies, 1 *sotnia*, 4 guns. Formation of the Krásnovodsk Local Detachment of 400 men. Expedition on the Atrak, 3 companies, 2 guns, 15 Cossacks.
 1875.—Reconnaissances—(1) along the Uzboi; 9 companies, 1 *sotnia*, 4 guns, rockets (1,066 men, 197 horses); (2) up the Atrak, 8 companies, 1 *sotnia*, 4 guns, rockets (948 men).
 1876.—Expedition to improve the road from Krásnovodsk to the Amu-Daríá, 6 companies, 1 *sotnia*, 4 guns (900 men), 213 horses.
 1877.—Expedition to Kizil-Arvat, 9 companies, 2 *sotnias*, 8 guns (1,820 men). Local Detachment at Krásnovodsk transformed into a Local Battalion of 1,200 rank and file.
 1878.—Expedition up the Atrak, 18 companies, 2 *sotnias*, 8 guns (4,200 men). Local Battalion at Krásnovodsk.
 1879.—17½ battalions, 20 squadrons and *sotnias*, 34 guns (12,058 men and 4,229 horses). Advance to Gok-Tupa and attack on it in August by 6 battalions, 6 squadrons and *sotnias*, and 12 guns (3,024 men), 12 guns, 6 rocket-troughs.—*Author*.

At that time a plan of action in Trans-Caspia had been arranged at Tiflis, and as the General Staff of the Army of the Caucasus had prepared different plans according to the time and money allowed to them, and subject to political circumstances, the Commander-in-Chief, who had no objection to Skobelev's appointment, proposed, however, that the person chosen should be obliged to follow out the course of action laid down. He therefore asked that the appointment of a commander should be put off till the plans for the Expedition had been laid before the Emperor, and that General Skobelev should be invited to attend the consultation. This was accordingly decided on.*

But before the plan for the Expedition had been worked out by the Staff of the Caucasus Army, a scheme had also been prepared by the Army General Staff towards the end of December 1879 for a new campaign in Akhál-Tekke, with the aid of several persons well acquainted with Central Asia. The main points of this were as follows:—For the final attack on the Tekkes, the advanced force should consist of 5,000 or 6,000 infantry, 20 to 24 guns, and 600 cavalry. To protect the flanks and rear, 3 or 4 battalions on the war footing, 10 to 12 guns, and 4 *sotnias* of Cossacks would be required—total, 8 battalions on the war footing, 10 *sotnias* and 32 guns.

In order to complete the Expedition by 1880, it was necessary to ensure the supply of the troops of the advanced force for the whole period of the campaign, say for four months, and that of the troops who were to form the garrisons of the *oasis* for the whole winter. The transport of the supplies for the advanced force would require 13,000 camels, and for the supply of the troops on the line of communications, the preparation of magazines for the winter, and to make good losses in the transport of the advanced force, 10,000 more would be necessary. The Trans-Caspian territory could not supply this number, and therefore it was proposed to bring transport animals from Orenburg. According to the Governor-General of that territory, the southern parts of the Kirghiz steppes could furnish from 5,000 to 6,000 excellent camels, although their delivery in Trans-Caspia might be attended with a good deal of difficulty on account of probable Tekke raids on the route followed by them. Besides, in the words of General Krijanóvski, 12,000 camels might "probably" be obtained from the Inner Bukeyeff Horde. These camels could be marched to Astrakhan, and their further conveyance would have to be arranged for on specially constructed barges.

The extreme difficulty of obtaining camels led to a project for a railway from the sea-coast to the commencement of the Tekke *Oasis* (to Kizil-Arvat or some other point) being considered. According to data supplied, rails might be laid down on the 220 *versts* (146½ miles) between the Micháelovsk post and Kizil-Arvat in two months, and if this were so, and the proposal had been carried out, the chances of success of the Expedition would have been greatly increased. It might, however, have been necessary to undertake a completely independent Expedition to safe-guard the construction of this line.

In consideration of the extreme difficulty of collecting the amount of transport required for the Expedition and the impossibility of determining how quickly the railway could be constructed, the General Staff came to the conclusion that, except under very favorable circumstances, it would be impossible to finish the Expedition in a single year.

To ensure success, it would have been necessary to construct an intermediate base, say at Kizil-Arvat, on which, before the decisive advance, supplies

* Telegrams from the Commander-in-Chief to the War Minister, on January 7th (19th), 1880, and from the War Minister to the Commander-in-Chief, on the 5th (17th) and 8th (20th) January 1880.—*Author*.

for at least four months for the Force could have been stored. On the occupation of Kizil-Arvat a new line of communication would then have been opened with Micháelovsk and Krásnovodsk would have been made the base, as in an Expedition on this scale Chikishliar would have been altogether unsuited for the purpose.

To aid in the Expedition, it was considered that the co-operation of the troops of the Turkistán and Orenburg districts would be of the greatest use.

Thus a reconnaissance might be made from Petro-Alexandrovska towards the Tekke Oasis in the spring of 1880, and a force might be gathered near Burdálík on the Amu-Daria to threaten the Marv-Turkumáns and keep them in their homes. In the Orenburg District a strong force might be got together to undertake an independent movement to Sári-Kámish and even to Igdi, to cover the communications between the Trans-Caspian Military District and those of Orenburg.

Although the composition of the army and the arrangements for the Expedition were laid down, no precise conclusions could be arrived at owing to the want of data to work upon, and while thoroughly recognising the importance of dealing a blow at the Tekkes in 1880, it was a matter of doubt whether the extreme difficulties of collecting transport could be got over in good time. On this point it was necessary to consult the Staff of the Caucasus Army; but at all events the General Staff were of opinion that, considering the difficulties of gathering camels, the dealing of a decisive blow at the heart of the oasis could only take place after a firm hold of Kizil-Arvat had been obtained and the enemy thus kept in constant terror.

The Assistant Chief of the Staff of the Orenburg district, Major-General Meyer, who had served for a long time in Turkistán, proposed, in a minute drawn up by him, that the operations for the conquest of Turkumánia should be based on the Khánates of Khiva and Bukhára, and that the advance should take place through Marv, troops being at the same time sent from the Caucasus to Kizil-Arvat as a demonstration. After the occupation of Marv the Tekke Oasis would be occupied by the Caucasus troops almost without assistance. In General Meyer's opinion this would have been a much cheaper way of subjugating the oasis than by operations from the Caspian, as it would have only cost seven millions of *roubles*, while the latter would cost twenty.

Major-General Glukhóvski, like General Meyer, proposed that troops should be simultaneously directed; from the Caspian on Akhál-Tekke, from Turkistán *via* Chahárjui on Marv, and from Khiva on Igdi. By the occupation of Igdi the Turkumáns would be deprived of their summer pastures which would entail the loss of their *flocks*, and in this case they would be obliged to take to a settled life. To our authority in Trans-Caspia the nomad (?) rather than the settled inhabitants would prove to be the more dangerous. In his opinion, if there should be any difficulty in occupying Igdi with troops from Turkistán, an independent force of 2 battalions, 4 *sotnias* and 12 guns could be sent from Orenburg.

Major-General Count Borch considered that the subjugation of Akhál-Tekke should be undertaken by two lines (from Krásnovodsk and up the Atrak) uniting at Bámi; that the transport should be partly wheeled and partly camels and mules; and that a railway should be constructed from Krásnovodsk to Kizil-Arvat. It could be accomplished in one or two years according to the expenditure allowed, but without a railway a campaign in Akhál-Tekke should not be undertaken. The troops required would be—(1) for the army of operations, 8 battalions, 8 *sotnias*, 22 guns, parks and hospitals; (2) for the communications, 7 battalions, 7 *sotnias*, 12 guns. He did not submit an

estimate of the total cost, but for the supply of the troops in 1880 and for the construction of the railway ten to thirteen million *roubles* would be required.

Several of the ideas expressed in the above proposals were adopted and considered in working out the final plan for the Akhál-Tekke Expedition.

In consequence of the telegrams received from the Commander-in-Chief as to Skobelev's appointment, the War Minister ordered the consideration of the proposed measures in Trans-Caspia to be put off till the arrival of the plan of the Caucasus authorities; but as the preliminary consultations had already shewn the necessity for troops from Turkistán taking part in the Expedition, the General Staff sent a message asking General Kaufmann if he could send a force to the Amu-Daria in the neighbourhood of Burdálík for a demonstration against Marv, or if he could move a column across the Khánate of Khiva to Igdi. In the latter case the column would have to protect the movement of supplies and camels from the Amu-Daria to the intermediate base at Kizil-Arvat.*

General Aide-de-Camp Von-Kaufmann 1st answered that he considered that the despatch of 18 companies, 6 *sotnias*, and 14 guns to the Amu at Chahárjui or Burdálík would be useful in any case.† If the final advance of the Army of the Caucasus were put off till 1881, the force on the Amu would protect the country from possible raids of the Marv-Tekkes. As for sending a force to Igdi or to open a line of communication with the Trans-Caspian Force, he considered it impossible on account of the difficulties of the march.‡

At the same time General Skobelev was informed that the conduct of an Expedition according to the plan laid down would probably be entrusted to him.§

Notwithstanding this conditional appointment, General Skobelev was already looked upon as the man who was to lead the Expedition. Thus, on the 12th (24th) January, the Emperor Alexander II. had a long conversation with him, at which the unsuccessful storming of Dangil-Tapa, on the 28th August (9th September) 1879, was discussed. The Emperor thus expressed himself: "It is incomprehensible how they could throw away the troops as they did and demand of them what they demanded. The Caucasus troops are good, and if they did not do what they were ordered to, it is evident that it was because they could not. No enemy should be despised, and I have always been of opinion that Central Asian enemies are not so despicable as has been supposed. Judging by what I have been told of the Tekkes, they must be a peculiarly warlike people."

His Majesty then said that the number of troops and the money allowed for the Expedition must be reduced to the lowest point. "It must be remembered that at the present time Russia has not unlimited supplies of either, but still the troops must be provided with everything they require in the widest sense of the word." In conclusion, the Emperor said that in 1879 there were many persons with the army whose services might well have been dispensed with.

On the suggestion of the War Minister, Count Milutin requested General Skobelev to communicate his ideas on the necessary strength of the force, and the question of its completion to the increased footing, and to state whether he considered that the Expedition could be carried out in one campaign,

* Telegram from the Chief of the General Staff to the Commander of the Turkistán Military District, No. 36, dated 10th (22nd) January 1880.—*Author*.

† The cost of the movement and supply of this force would be 750,000 *roubles*.—*Author*.

‡ Telegram from General Kaufmann to the Chief of the General Staff, dated 26th January (7th February) 1880. His report to the same, No. 8, dated 30th January (11th February) 1880.—*Author*.

§ Letter from the Chief of the Staff to General Skobelev, No. 1, dated 10th (22nd) January 1880.—*Author*.

and whether success could be ensured without laying a railway, *i.e.*, with wheeled transport, road locomotives, and camels. The War Minister at the same time pointed out to General Skobelev the necessity for moderation in his financial estimates, and for careful avoidance of political difficulties.

In the middle of January 1880, Skobelev took part in the deliberations of the General Staff as to the conduct of the Expedition, and was ordered by the War Minister to study the question as to the amount of aid which might be expected from a railway, since the great majority of those consulted had expressed themselves in favour of constructing one, and saw no hope of a successful issue of the campaign without one. They proposed to occupy Kizil-Arvat and commence to construct the line of rails and then await events. General Skobelev thought that a railway alone could not be trusted to bring the Expedition to a successful termination, and he proposed to use camels principally, treating the railway as a secondary line of communication. His opinion was that measures should be at once taken to obtain camels, as those would require a great deal of time, and as the inhabitants of Mangishlák were just then at their homes, but would begin, in the end of February, to move to their summer pasture-grounds in the Ural province. If the camels were obtained in the first days of February, with energy and luck lost time might be made up, and they might arrive more or less opportunely. If, however, these measures were not taken instantly, the camels would probably either not be obtained at all or obtained with such difficulty and at so late a period that it would be impossible to think of attacking the *oasis* early in the autumn of 1881.* The Khivan *Oasis* could also furnish some camels, but negotiations for them would take a long time. It would also be necessary not to neglect the Bukeyeff horde, even though they had showed no signs of possessing a large number of transport animals.†

Together with the question of camel transport, General Skobelev also raised that of providing the troops with bedding, felts and with *kibitkas* for the winter of 1880-81. It is indisputable that a felt is a most necessary part of a soldier's equipment in steppe campaigns. The Atrak-Turkumáns could neither supply felts nor *kibitkas*, but they could be obtained in Mangishlák, provided that the Adáeffs had not yet migrated for the summer. Part of the baggage could be conveyed by wheeled transport, but the horses for this would have to be bought in Mangishlák. If the starting point of the Expedition were the Gulf of Micháelovsk, it would be indispensable to provide condensers able to turn out at least 27,000 gallons of fresh water a day and a telegraph line.

We have here mentioned only the principal points which had to be settled by the General, but there were a large number of secondary questions, the timely solution of which was of great importance for the success of the Expedition. Indeed the whole business was a very complicated one and was thoroughly subject to the element of time. It was only by practising the greatest economy in this respect that the future could be looked forward to with confidence.‡

In considering the question from a political point of view, Skobelev arrived at the same conclusion that it was necessary to economise his time. The English were then raising the question of making Herát over to Persia, and they spoke of this town as if it were part of England. "Si nous

* Letter from General Skobelev to General Aide-de-Camp Obrucheff, No. 1, dated 17th (29th) January 1880. The year noted in the text (1881) would appear to be a misprint for 1880.—*J. M. G.—Author.*

† See above Krijanóvski's remark "probably," &c.—*Author.*

‡ Letter from Skobelev to Colonel Sobolev, No. 2, dated 19th (31st) January 1880.—*Author.*

donnons Herát à la Perse.”* Skobelev came to the conclusion that Beaconsfield’s Ministry would do all it could to establish English influence at Herát as soon as possible, and that therefore we should hasten to establish our supremacy in the *oasis*.

When General Skobelev’s appointment to the command of the Expedition became known in St. Petersburg, a large number of contractors brought proposals of improved means of transport to lay before him, as it was generally understood that the whole results of the Expedition to Akhál-Tekke depended on a mass of stores of various kinds being concentrated in the vicinity of the *oasis*, and, consequently, on the transport arrangements.

Of all these proposals the most deserving of attention were (1) that of the representative of Décauville’s (French) firm in St. Petersburg, Count de Los Valles, for a portable railway (the “porteur Décauville”); and (2) that of the American Berry, on account of its grandiose project. Count de Los Valles’ proposal was accepted, as will be mentioned further on.†

Berry proposed to construct at his own expense a railway from the Gulf of Micháelovsk to Kizil-Arvat, $133\frac{1}{2}$ to $147\frac{1}{2}$ miles long, and if the contract with him were signed by the 18th February (2nd March), he engaged to have the whole line ready by the 1st (13th) September 1880, and the first $13\frac{1}{2}$ miles (to Mulla-Kári) by the 1st (13th) June. On the 1st (13th) September the contractor would hand the line over to Government. If it did not desire this, however, he (Berry) was to be guaranteed a yearly traffic of 600,000 *puds* at 1 *kopeck* per *pud* and per *verst*, or a total of 1,320,000 *roubles* a year. The contractor might agree to a diminution in the amount of goods if special conditions were made. If Government desired it, Berry would, on certain conditions, prolong his railway through Sarakhs and Herát to meet the British line from Quetta to Kandahar.

Berry proposed to take his rails and rolling stock from some unworked lines in the Western States of North America, the whole weighing 64,000 tons, and establish a fleet of 14 steamers on the Caspian, when navigation opened to the means of transport on that sea were very limited.

Berry’s proposals were not seriously considered for the following reasons. In 1879 the Americans had ordered a large number of rails and locomotives in England, Belgium, and Germany, with a view to constructing new lines for the transport of grain, and in consequence the price of iron in Europe had risen greatly.‡ Would it not, therefore, have been more simple, if there were unworked lines of rail in the Western States, to sell them in America rather than bring them to us to the shores of the Caspian? Besides, being a foreigner, Berry did not inspire confidence, all the less so as he offered no material guarantee, and expressly refused to permit Russian Engineers to take part in the construction of the line.

Several other projects were also laid before the General Staff for the construction of improved lines of communication in Trans-Caspia, such as Anosoff’s for a horse tramway which was to be laid in much the same way as Décauville’s railway.

* Skobelev’s conversation with the correspondent of the *Standard* 30th January (11th February) 1880.—*Author*. (The words between inverted commas are in French as in the original.—*J. M. G.*)

† See Appendix V, which contains a short description of the Décauville Portable Railway.—*Author*.

‡ In 1880 the export of metals from Russia represented a sum of 8,327,400 *roubles*. These unprecedented figures were caused by the large export of worn-out rails which were sent, in consequence of the sudden rise in the price of metals, even to North America.—*Author*.

On the 28th January (9th February) the project worked out by the Staff of the Army of the Caucasus arrived at St. Petersburg, its proposals being as follows.

The experience of the last three years has shewn that, before a movement into the *oasis* with a view to occupying it, it is necessary (1) to concentrate supplies for six months for the Army of Operations at Duz-Olum, and then to move those stores into Akhál-Tekke; (2) to provide the troops who are to hold the line of communications with supplies for six months, counting from the opening of hostilities; and (3) to form a transport for the Army of Operations to carry eight days' supplies and its baggage, quite independent of the transport employed in carrying supplies forward.

In order to hasten the concentration of the required amount of supplies and to facilitate the movement of the transport and of the troops, it would be of great importance to have two lines of operation between Chikishliar and Duz-Olum, and between Krásnovodsk and Kizil-Arvat.

From Duz-Olum, the extreme point occupied by us, to the beginning of the Tekke *Oasis*, is 80 miles, and as this interval would be exposed to the raids of the Tekkes, it would be necessary to advance gradually, first occupying Khwajá-Kala, and moving supplies up to it, and then Bámi or Burma, where the six months' supplies could be finally stored.

The above were the main features of the plan of the Staff of the Army of the Caucasus. Some of its details were:—

A force of 6,000 men and 2 000 horses* was to be placed between Chikishliar and Duz-Olum, to protect this line and also occupy Khwajá-Kala (53½ miles from Duz-Olum).

The occupation of Khwajá-Kala by part of these troops was not to take place till the whole of the supplies for the troops who were to be moved beyond Duz-Olum and the six months' supply for the army of operations had been concentrated at Duz-Olum.

The troops told off to move from Khwajá-Kala into the *oasis* were to consist of; for the garrison of Burma 2 battalions (at 42 files per half company), for further operations 4 battalions of the same strength, 6 *sotnias* of Cossacks, 2 *sotnias* of militia, a mountain battery, and an ammunition column.

The total of all the troops in Trans-Caspia (except those at Krásnovodsk and Alexandrovsk) at the beginning of the advance into the *oasis* would, therefore, be 14½ battalions, 14 *sotnias* of Cossacks, 3 *sotnias* of militia and 2 batteries. Total 12,700 men, and 4,700 horses.

Although some of the supplies required were already at Chikishliar, Chát and Duz-Olum, taking into consideration the state of the sea-transport and the fact that more than 8,000 camels would have to be collected in the Cis-Atrak country and 4,000 in Mangishlák, the formation of the required store-dépôts could not be completed at Chát till the 1st (13th) May,† at Duz-Olum till the 1st (13th) November 1880, at Khwajá-Kala till the 15th (27th) February, and at Burma till the 1st (13th) June 1881.

In the course of September 1881, the Army of Operations‡ would arrive at Burma from Krásnovodsk, and would be followed by 4,000 Mangishlák camels which would constitute the transport required to carry supplies from Burma to the points in front of it occupied by our troops.

The Caucasus Military Authorities did not suppose that decisive operations from Burma would begin before October 1881, but they expressed the

* 8½ battalions, 8 *sotnias* of Cossacks, a field battery, 6 guns for the armament of Chát and Chikishliar, and a *sotnia* of militia.—*Author*.

† If the ships were unloaded by 1st (13th) April.—*Author*.

‡ Except two battalions which would be sent up earlier.—*Author*.

hope that, by the beginning of 1882, the *oasis* would be finally conquered.

Besides the supplies required for the troops up to the date of, and during, the Expedition, it would be necessary to transport by sea and on camels, during 1881, 256,000 cwt. of provisions and forage required for the troops of the Army of Operations and on the line of communications up to 1st (13th) July 1882.

In determining the dates for the completion of the supply-magazines at the points up to Burma, the Caucasus authorities had considered only provisions and forage. But, as a considerable quantity of other supplies would be required for the troops which could not be conveyed by local means of transport, it was proposed to have, besides camels, a special wheeled transport of from 200 to 250 waggons, or 800 to 1,000 carts (*odnokolki*).

The cost of the Expedition, supposing the Akhál-Tekke *Oasis* to be occupied by the beginning of 1882, would be 12,800,000 *roubles*,* including the cost of preparing flour (or biscuit), groats and fuel.†

This was the plan proposed if camels only were used for the transport, and if the final blow were put off till the end of 1881.

If, however, it were considered necessary to finish the Expedition in one year, a large increase in the means of transport would be required. This might be done by employing 1,500 waggons or 6,000 carts with the army which would enable operations to be commenced on the 1st (13th) November 1880. The provision of 1,500 waggons or 6,000 carts would, however, tax to the utmost the manufacturing power of the workshops of the Caucasus, and even if the 1,500 waggons were obtained, it would be decidedly impossible to ship them to the east coast of the Caspian by the 1st (13th) April, consequently it would be impossible to finish the Expedition in a year with these means of transport.

The plan of the Caucasus Staff went on to say, "while considering it possible" to commence the movement into the Akhál-Tekke *Oasis* within a certain time, as has been detailed above, we must point out the different risks to which a prolonged movement by camel transport is subject; under unfavourable circumstances, it may happen that the whole Expedition may be brought to a standstill. Wheeled transport, on account of the impossibility of obtaining a large number of four-horsed waggons, and the difficulties of transporting them by sea and supplying forage for their horses, can only be considered as auxiliary to camel carriage.

Having considered all these matters and in order to put the Expedition beyond the risk of failure, the Caucasus authorities came to the conclusion that it was absolutely necessary to construct a railroad from Krásnovodsk to Kizil-Arvat (226½ miles). The Krásnovodsk post was proposed as the starting point of the line as it has the best harbour on the east coast of the Caspian. The construction of the line would cost 7,300,000 *roubles*, the time required to lay it would be a year, and the yearly cost of its working would be 1,200,000 *roubles*. On the completion of the railway, the required amount of stores would be concentrated by it at Kizil-Arvat,‡ and afterwards the troops would move up by this same route. From the date of the completion of the railway the conquest of the *oasis* would take two or three months.

* For the transport of supplies from Chikishliar to the points on the Atrak line as far as Burma till 1st (13th) June 1882, 5,600,000 *roubles*, and for all expenses of maintaining the troops till 1st (13th) January 1882, 7,200,000 *roubles*.—*Author*.

† The storage of one year's fuel for the Army of Operations would cost 846,780 *roubles*.—*Author*.

‡ In view of the strategical protection of the railway works, when these should get as far as Kutul, a detachment should advance on Khwāja-Kala or if possible to Kizil-Arvat, along the Atrak line. Meanwhile for the protection of the railway works a special force would be required.—*Author*.

Thus the two proposals made by the Staff of the Army of the Caucasus were—(1) to concentrate supplies for the Army of Operations by camel transport at Duz-Olum by the end of 1880, and at Khwāja-Kala by the beginning of 1881, to occupy Burma in the summer of 1881, and transport the supplies thither; in autumn of the same year to undertake decisive operations for the subjugation of the *oasis*, the field force advancing in October 1881, and finishing its task by the beginning of 1882; or (2) to have a railway to Kizil-Arvat constructed by the 1st (13th) March 1881, to forward supplies by it, and to finish the campaign by the spring of the same year.

After comparing both projects, it was finally decided to construct a railway to Kizil-Arvat, as this would be the only way of avoiding risks of all sorts which might ruin the most careful calculations.*

As no special survey had been made of the country between Krásnovodsk and Kizil-Arvat, and only eye-sketches were available, the question was raised whether a railway could be completed by the beginning of 1881 with the plant, &c., specified in Okuneff's railway project.† Skobelev pointed out that the estimates of time and plant required for construction were founded on mere guesswork, and that to trust for the success of the Expedition entirely to the railway was excessively risky, because a fault in its construction would put off the occupation of the *oasis* indefinitely, and this delay would be to the advantage of the enemy and raise his *morale*. General Skobelev thought it, therefore, better to begin operations at once, to win some partial success, such as the occupation of Kizil-Arvat, and then to set to work quietly on the construction of the railway up to that place. Before beginning the construction of the railroad, it would be necessary to make exact surveys of the whole line from Krásnovodsk to Kizil-Arvat, as otherwise we should run the risk of being forced by some difficulty (*e.g.*, water-supply) to leave the line unfinished. The proposer of the line even, Okuneff, said that he would require a whole year to investigate the question of the amount of water to be got from the wells. According to his project a station of the 4th class should be able to supply daily 686 cubic feet of water or about 3,780 gallons, and even the best supplied wells could not yield such a volume of water.

As the plans proposed by the Caucasus Staff assigned a period either unrealizably short or too prolonged for the preparation of the Expedition, General Skobelev came to the conclusion that for the real and speedy conquest of the *oasis*, it was necessary to make use of all possible means of transport by camels, tramways, railways, and road locomotives, in order to concentrate the required amount of stores at the front. Each taken separately might fail, but if all were used according as they might be best adapted to the country traversed, the risks of failure would be greatly reduced.

The following exposition shows the extent to which each was proposed to be used for the supply of the troops of the Army of Operations, and for the movement in advance of the army itself. In other words, the following was General Skobelev's plan.

* *Note on the impending Military Operations in Trans-Caspia*, enclosed in a letter from the Commander-in-Chief to the War Minister, No. 298, dated 22nd January (3rd February) 1880.—
Author.

† This project was appended to the note of the Caucasus General Staff. The line was to be a narrow gauge one of the Liva type, and was to start from Krásnovodsk. 1,500 soldiers were to take part in its construction, and its cost (for 226½ miles of line and rolling stock) was to be 7 million roubles. Okuneff was of opinion that a tramway should be built first, and that the construction of the railway should only be begun when the water-supply had been ascertained. If the order were given on the 1st (13th) February, the tramway would be ready from Micháelovsk to Kizil-Arvat (146½ miles) by the 1st (13th) August. The cost of the latter with horses would be 2,000,000 roubles.—Author.

On the Atrak line there were 6,000 men, one field battery, and 2,000 horses, divided among the forts at Duz-Olum, Chát, and Chikishliar; but it was evident that there was no necessity for such a large force being kept at those points. With a good commander, a sufficient supply of cartridges, water and food, and a clear field of fire, a garrison of from 2 to 4 companies with a few guns could hold out for any length of time against any Asiatic foe. The first care of the Commander of the Expedition, after he had personally inspected the positions, would be to reduce the garrisons of Duz-Olum, Chát, and Chikishliar to a *maximum* of 2,000 men with 500 horses, and this would enable the garrisons left in those forts to subsist on the supplies already collected there for the whole of 1880.*

The Army of Operations would be composed of 6½ battalions (at 42 files per half-company),† 48 guns,‡ 7 squadrons and *sotnias*,§ 3 parks,|| and a hospital with 500 beds.

On the communications there would be 3 non-mobilized battalions, 2½ battalions (at 42 files per half company), 16 guns, 4 *sotnias* of Cossacks, hospitals at Chikishliar and Tash-Arvat-Kala, and defensive posts at Chikishliar, Chát, Duz-Olum, Micháelovsk, Aidin, Ushák, Kizil-Arvat, and Tash-Arvat-Kala.

The total of all troops required would be three non-mobilized battalions, 8½ battalions (at 42 files per half-company), 64 guns, 4 squadrons, and 7 *sotnias*.

The transport required would be:—

- (1) 3,000 Atrak camels¶ to work between Chikishliar and Duz-Olum. From the 1st (13th) April 1880 to the 1st (13th) April 1881, they would carry to Duz-Olum four months' supplies for the Army Operations, and supplies for the garrisons of the Atrak line for the whole of 1881.
- (2) 2,000 Mangishliák** and 500 Baku camels, which would arrive at the Gulf of Micháelovsk about the 1st (13th) June. From that time to the 1st (13th) September they would transport supplies from the coast to the wells of Aidin.

From September 1880 till 1st (13th) March 1881, they would work at first on the Aidin-Kizil-Arvat line, and later on between Ushák and Kizil-Arvat. From March till August 1881 inclusive, these camels, together with those from the Atrak, would take supplies on to Burma.

When the Duz-Olum store-depôts were cleared out, 4,000 camels would work constantly between the wells of Ushák and Burma, so as to throw into the post a four months' supply for the whole army, and 1,500 camels would remain with the army and accompany it on its march towards Gok-Tapa.

- (3) The light field railway. This from 1st (13th) September to 1st (13th) December would work on the Michael's Bay and Aidin section (58¾ miles). If on the 1st (13th) December or early in 1881 the light railway had been replaced by the permanent line, it would be relaid between Aidin and Ushák (69 ½ miles).
- (4) The projected permanent railway from the Gulf of Micháel would be opened for a length of 69½ miles on the 1st (13th) December 1880.

* For the 6,000 men and 2,000 horses on the Atrak line, there were supplies as follows:—At Duz-Olum till 1st (13th) April, at Chát and Chikishliar till 1st (13th) June 1880. There was also at Chikishliar a supply of provisions (besides tinned provisions) for 6 months and compressed forage (except hay) for 18 months for all these troops.—*Author*.

† Including a company of sappers.—*Author*.

‡ 4 field and 1 mountain batteries, 8 mortars.—*Author*.

§ 4 squadrons dragoons, 2 *sotnias* Cossacks, 1 *sotnia* Turkumáns.—*Author*.

|| Engineer, Artillery and Telegraph Parks.—*Author*.

¶ Instead of 8,000, which the Caucasus authorities recommended.—*Author*.

** Instead of 4,000, as recommended by the Caucasus authorities.—*Author*.

The movements of the troops would be as follows :—

- (1) In April 1880—(a) Return of part of the troops from the Atrak line to Chikishliar, and thence to the west coast of the Caspian ; and (b) occupation of the Gulf of Micháel to protect the construction of quays and the erection of condensers.
- (2) In June 1880—Occupation of Aidin to protect the store-dépôts and the construction of the railway.
- (3) In September 1880—(a) Occupation of Kizil-Arvat by 2 battalions, 12 guns, and a *sotnia* of Cossacks ; and (b) occupation of the wells of Ushák.
- (4) In March 1881—Concentration at Kizil-Arvat of the remaining troops of the Army of Operations (4½ battalions, 4 squadrons, 1 *sotnia*, and 36 guns).
- (5) In April 1881—(a) Advance of the Army of Operations to Burma ; and (b) occupation of Kizil-Arvat by a garrison.
- (6) In September 1881—Occupation of Durun and operations against Gok-Tapa and Askhábád, based on a series of fortified points (including Burma, Durun, and Yegían-Bátir-Kala.)

The cost of the Expedition was estimated about 10,000,000 *roubles*.*

In this plan, ample margins of time were allowed, as a camel-load was calculated at 6 (216·6 lbs.) instead of 8 *puds* (288·8 lbs.) ; it was only assumed too that the railway would be ready as far as Aidin by the 1st (13th) December 1880, the light field railway being held as available from the 1st (13th) September, and its carrying power was only taken at half the amount agreed upon by the contractor. Abundance of time was moreover allowed for journeys both by the camel carriage and by the light field railway.

"Thus," wrote Skobelev, "with a possible diminution of time there must be a considerable saving of expense from the reduction of the number of camels, and a corresponding reduction of the charges for the pay and rations of the camel-drivers through the increased quickness with which the troops can be brought home, after their object is fulfilled, and from the diminished cost of supplies which will be brought from Khiva and Persia and obtained locally for the troops in the *oasis*."†

During the first ten days of February most of the principal questions about the Expedition had been more or less settled at the War Ministry. Extensive means had been demanded for the conquest of Akhál-Tekke, and still the undertaking seemed full of risks. In consequence, certain people began to raise the question of principle. Should our operations in Trans-Caspia be prolonged till the Akhál-Tekke *Oasis* was subjugated ; or, in consideration of the large expenditure which this conquest would necessitate, should we not abandon Trans-Caspia, and only occupy Krásnovodsk and a few points on the Atrak ? Deliberations on this subject were held under the presidency of Count Milutin on the 11th (23rd) and 12th (24th) February.

After considering all the objections raised, the conclusion was arrived at that the conquest of the Akhál-Tekke *Oasis* was a necessity. Tranquillity in Trans-Caspia could only be ensured by two means, by an energetic blow at the Akhál-Tekke *Oasis*, prepared and carried out within the same year, or by the careful preparation of a base of operations and a gradual conquest of the country.

The first had the advantage of speedily avenging our defeat of 1879, but it would have this disadvantage, that, after defeating the Tekkes, our troops,

* Including 500,000 *roubles* for 100 *vershs* (66½ miles) of light field railway.—*Author*.

† General Skobelev's report of 22nd February (6th March) 1880. This note appears under

having no base of operations, would have to retire from the *oasis*, and in Asia retreat is equivalent to a defeat. The expense of such an expedition would, moreover, be not less than 5,000,000 *roubles*.*

The Council, therefore, declared for the second alternative, *i.e.*, to firmly consolidate the base at Kizil-Arvat, and then to gradually carry out the conquest of the *oasis*. This formation of a secure base would both strengthen our military and political position in Trans-Caspia, and would give us a chance of subjugating the Tekke *oasis* without a special Military Expedition.

While considering the question of the formation of a reserve base, the Council arrived at the conclusion that it was necessary to transfer the line of operations from Chikishliar to Krásnovodsk and Kizil-Arvat, for on the latter a broad-gauge railway was to be laid down.† The new line of operations could be considerably shortened if advantage were taken of sea transport from Krásnovodsk to the head of the Gulf of Micháelovsk.

The Council did not go into the question of our further operations from Kizil-Arvat, as it considered that these would depend entirely on local circumstances which could not be exactly foreseen. As our defeat in 1879 had made its effects felt on the left bank of the Amu, and as the Marv-Tekkes might make raids on the right bank of the river, the Council considered it of great importance to concentrate a force on the Amu-Daria.

Although General Skobelev was of opinion that, without holding Kizil-Arvat or even "Besh-Kala" (the five Tekke Forts of Kizil-Arvat, Koj, Zau, Kizil-Chashma, and Bámi), the construction of a line of rail was impossible, he declared himself against any limiting of the operations of the force to the occupation of Kizil-Arvat till the railway had been made up to it. He foresaw that, on our establishing ourselves in the northern corner of the *oasis*, the Tekkes would take the offensive. If we defeated them, we should follow the law of war which dictates the pursuit of a routed enemy, and consequently the Commander of the Force would be compelled to follow to the point where the enemy had concentrated his defence, probably to Gok-Tapa.

By expending a large amount of *matériel*, time and men, and having gained a success, might not the Commander, by his inactivity, give the enemy time to prepare for renewed resistance? Logically speaking, this would actually prolong the conquest of the *oasis*, and might force us to be ready to pursue the enemy into the sands of the desert.‡ "By occupying a line," wrote Skobelev, "whose right flank is at Chikishliar and whose left is on the Amu and by remaining spectators of what goes on after the occupation of Kizil-Arvat, *i.e.*, by keeping up our impatient inactivity, it may happen that we shall fail in our object of protecting the construction of the railway, for our inactivity may cause partisan bands to be formed in our rear, and this sort of warfare is very inconvenient in Asia. This railway will be the first which has been made through a country of

* As to the possibility of inflicting a blow on Akhál-Tekke during the year 1880, see Appendix No. 7, Skobelev's note headed *A blow at Akhál-Tekke*. It contains this passage: "At the beginning of next year (1881) the force might return to the sea-coast if the enemy submitted to the blow and this, judging from last year's expedition and from Persian operations, is very probable. If circumstances forced the Government to keep the force for a longer time in Akhál-Tekke, its supply might be assured from Khiva and Persia, for it may be expected that the latter country will not continue to play a double game." *Letter to the War Minister, dated 12th (24th) February 1880.—Author.*

† For the reasons for choosing a broad-gauge line and a comparison of the cost of the different gauges, see Appendices 8 and 8a.—*Author.*

‡ After the Chandir affair in July 1873, the Yamúts retired with all their flocks and families into the desert, and crossed the waterless stretch of 93½ miles between Chágil and Nafas-Kuli *via* Shah-Senem and Dandir. To traverse this, a six days' supply of water *plus* 30 per cent. for leakage would be required.—*Author.*

nomad brigands, and it is well known how much these latter are inclined to pillage.* Looking at the question, therefore, from this point of view, and considering the experience of English, French and Russian wars against Asiatic and African Mussulmáns, it must be admitted that to obtain a decisive success over an Asiatic enemy, not only must we assume the initiative, but we must establish our prestige over him; in a word, we must practice the principle of Lord Beaconsfield, to beat an Asiatic, not only by force, but through his imagination. Therefore, I think that, for the sake of making all go well, the question of occupying Kizil-Arvat should not be separated from that of the conquest of the *oasis* or the construction of the railway, and, so to speak, the feeling of fear and respect for us, caused by our decisive successes, will serve as a protection for us.”†

When the final report was presented to the Emperor on the 24th February, (8th March) His Majesty said that the necessity of supporting our prestige in Central Asia and ensuring tranquillity in the Aral-Caspian steppe, and the honour of our flag forced us to undertake an expedition to Akhál-Tekke. On the 1st (13th) March, the final arrangements were made, and His Majesty gave the following orders:—

- (1) The plan agreed upon was in no way to be departed from, and no dangerous movement backward was to be made, which, in the eyes of Europe and Asia, would be an indication of our weakness, or that would make us the laughing-stock of our enemies, thereby eventually costing Russia a great deal more money than the proposed expedition.
- (2) Our operations were to be confined (without any raids forward) exclusively to what might be necessary to acquire well-defined frontiers. This object might be attained by dealing a decisive blow at the Tekkes, or by such threats as should induce them to submit to our power.
- (3) The operations were to be conducted systematically and nothing risked. At first all preparations were to be made for the formation of a base at Kizil-Arvat (or some other point), and for the establishing of ourselves firmly in the triangle between that point, Krásnovodsk, and Chikishliar.
- (4) A base was at once to be formed and stores conveyed to it by camels, horses, and Décauville's Portable Railway. At the same time surveys were to be made for the construction of a permanent line of rail, and calculations made as to how far it could be utilised and as to the means for working it.
- (5) The Commander of the Expedition was to be General Aide-de-Camp Skobelev, Commander of the 4th Army Corps, and he was to choose his own Staff, to determine the exact number of troops required in 1880 for the formation of the base and its protection by a mobile force, and to take all measures for the collection of means of transport.
- (6) The authorities of the Army of the Caucasus were to arrange for bringing up the expeditionary troops to a strength of 42 files per half-company.
- (7) The sums allowed for the Expedition for the formation of base operations in 1881 if these were necessary, the final advance, and the

* *Barantas* or cattle-lifting, &c.—*Author*.

† Letter from General Skobelev to General Obrucheff, No. 4, dated 16th (28th) February 1880.—*Author*.

maintenance of all the Expeditionary troops till 1st (13th) January 1882, but exclusive of the cost of construction of a permanent railway, were fixed at an approximate total of 10,000,000 *roubles*, of which $\frac{1}{20}$ th part was to be in silver (principally for extraordinary expenses).

- (8) If it appeared necessary or possible to prolong the Décauville railway beyond the originally proposed length of 69½ miles, or to construct a permanent railway line into the *oasis*, supplementary estimates were to be sent in with the sums required precisely shown.
- (9) General Aide-de-Camp Von Kaufmann 1st was to be informed that in the general plan of operations in Trans-Caspia for 1880, it was not proposed to make any decisive advance on the Tekke *Oasis* during that year. A demonstration towards Marv was, therefore, to be carried out only if he (General Kaufmann) thought it necessary and possible. But it would be of advantage if he could send a small reconnaissance from Petro-Alexandrovsk towards Sári-Kámish to cover the movement from the Khivan *Oasis* of supplies for the army operating against the Tekkes, and also to protect the party exploring the old beds of the Amu.*

On the same day His Majesty gave orders for special instructions to be prepared for the Commander of the Expedition as to his rights and his relations with the Commander-in-Chief of the Army of the Caucasus.

General Skobelev had several times been accused of creating political and military difficulties intentionally, and then turning them to his own profit, and he did not wish to again expose himself to such reproaches, so he asked that he might be provided with circumstantial instructions.

The Akhál-Tekke question was divided into two parts, the military and the political. With regard to the first, Skobelev distinctly said that he had studied the question, and only wanted full powers and the means placed at his disposal. The second part was closely connected with the first, but here he did not desire full powers, and asked for instructions, but was assured that he was so thoroughly acquainted with the affairs of the country, that he would be able to anticipate in his letters all political questions which might be caused by our operations. He, therefore, asked the War Minister for instructions as to the chief points to which he was to pay attention.

On the basis of these dispositions, General Skobelev had laid down in general terms the conditions on which he had resolved to take command of the Expedition :—

- (1) The supreme direction of the Expedition belongs to the Commander-in-Chief of the Army of the Caucasus.
- (2) The conduct of the Expedition is to be entrusted entirely to its Commander, and all the responsibility is his. He has the rights of the Commander of a Detached Army Corps.
- (3) The Commander of the Expeditionary Force is to have full power over all the preparations, and the conduct of military operations ; but the Expedition must be finished in as short a time as possible.
- (4) To carry out the Expedition, the Commander must have at his disposal the troops, sea-transport, and sums of money which he considers necessary.
- (5) In cases not admitting of delay, he has the right of concluding contracts for the provision of the troops with anything they require,

* As the outbreak of a war with China was possible, General Kaufmann did not think it expedient to make a demonstration towards the Amu.—*Author*.

and of confirming contracts for the transport by water of troops and military stores by companies trading on the Volga and Caspian Sea.

- (6) The local authorities (Military and Civil) of the Caucasus, Kazán, Orenburg, and Turkistán Military Districts are to be ordered by His Majesty to co-operate with him in obtaining and transporting to his force supplies of different kinds both by land and sea-routes.
- (7) The civil authorities of the Trans-Caspian Military District are to be under his orders.
- (8) He has the right of communicating direct with the authorities of the adjacent Persian, Bukhárán and Khivan provinces.
- (9) The organisation of the conquered country, as far as regards the introduction of a civil administration, is to be among his duties and to be carried out on his own responsibility.

"Success can only be insured when complete and real confidence is placed in the person chosen as Commander," wrote Skobelev to General Obrucheff.* "Without that his responsibility for the conduct of so difficult an affair towards the Government and towards the country would be too heavy. The Commander of the Expedition must not be placed in a position which would clog all his energy and render his capabilities of no avail."

On the basis of these proposals were drawn up "the instructions for the Temporary Commander of the Troops operating in Trans-Caspia (the title given to General Skobelev), which were confirmed by the Emperor on the 15th (27th) March† and 19th April (1st May).‡

Agreeably to these instructions all troops, administrations and officials stationed in Trans-Caspia were put under General Skobelev's orders. For higher matters he was subordinated to the Commander-in-Chief of the Army of the Caucasus, to whom, in his turn, were given the powers over the troops operating in Trans-Caspia which belong to a Commander-in-Chief in time of war§. Besides keeping in constant communication with the Commander-in-Chief, the Commander of the Expedition was also to communicate from time to time with the Commander of the Troops in the Turkistán Military District. In very special circumstances he had full powers to act in any way he pleased without reference to any one. He might communicate direct with the Khán of Khiva or with the Governors of the neighbouring Persian provinces. He might suspend from their duties or send out of the district any one in his command. In administrative matters, he had the rights of a Military District Council, if administrative affairs were carried out according to the rules laid down for their conduct in time of peace, and of the Commander of a Detached Army Corps in the settling of all matters which from their nature could only occur in time of war. In newly occupied places he had the right of establishing, in the name of the Emperor, a Temporary Administration, of raising taxes, and of imposing contributions. In matters of the assembling, directing, and confirming the proceedings of Courts of Military Justice, he had the rights of the Commander of a Detached Army Corps. In specially important cases he had the right of finally confirming the sentences of Field Courts-Martial, not excepting even those that involved the punishment of death.

* 16th (28th) February 1880, No. 4.—*Author*.

† See Appendix No. 9, "Instructions to the Temporary Commander of the Forces operating in Trans-Caspia."—*Author*.

‡ See Appendix No. 10, "Instructions to the Temporary Commander of the Forces operating in Trans-Caspia, in the Military-Judicial Department."—*Author*.

§ The War Minister to the Commander-in-Chief, No. 30, dated 13th (25th) March 1880.—*Author*.

CHAPTER IV.

Preparations at St. Petersburg for the Expedition—Measures taken to obtain camels—Survey of the Gulf of Micháelovsk—Increase of the means of transport in the Caspian Sea—Orders for a Décauville railway—Condensers, &c.—General Skobelev's plan for the first period of the Expedition—His requirements for the Artillery and Engineer services—Heliographs—General Petrúsevitch sent to the east coast of the Caspian—Appointment of a Field Control Department in Trans-Caspia—Departure of Skobelev for Tiflis.

In the previous chapter we have given an outline of the plan for the projected military operations in Trans-Caspia, as approved by the Emperor. Its main idea was, with as small forces as possible, to seize the apex of the triangle formed by Krásnovodsk, Chikishliar, Kizil-Arvat, and then, under cover of a strongly fortified advanced point, to establish good lines of communication through Krásnovodsk, Aidin, and Kizil-Arvat, Chikishliar, Chát, Duz-Olum, Khwája-Kala, and Kizil-Arvat, and thus ensure the provision and concentration of the supplies required for an important movement into the heart of the Akhál-Tekke *oasis*.

In fact, the problem resolved itself into carrying the Russian *points d'appui*, which had hitherto been on the shore of the Caspian Sea, 200 miles forward.

With this object, it was resolved to bring back to the Caucasus a part of the troops then stationed in Trans-Caspia and not to replace them, while increased exertions were made to throw stores into Duz-Olum, the farthest forward point occupied by us on the Atrak line.

As soon as the question of the Akhál-Tekke Expedition was settled, extensive measures were adopted at St. Petersburg to obtain the means of transport required to carry stores from the coast up to the intermediate base, and to enable the further advance to be made in suitable force.

General Skobelev was deeply convinced that no expedition from the east coast of the Caspian into Central Asia could afford to dispense with the co-operation, direct or indirect, of the Orenburg district; and expeditions in late years into Turkumania had only deepened this conviction. Insufficiency of transport, when large numbers of animals were required to carry supplies and to keep up with the troops in their toilsome marches from the sea to the *oasis*, had always prevented forces of proper strength, which could deal a blow at the enemy at the point where he would feel it most, from being organized.

To carry the base forward 200 miles from the sea required a large number of transport animals. These could not be obtained locally in Trans-Caspia; indeed only Orenburg and Turkistán, with the neighbouring Khánates, could furnish the Trans-Caspian troops with the numbers they required.

General Skobelev especially trusted to the numbers which might be obtained from the Orenburg Steppe, basing his calculations on its former performances—as, for example, at the time of the conquest of Baku, when, on the 8th (20th) January 1796, Gudovitch received an Imperial Order to purchase camels on the Orenburg line, in the Government of the Caucasus, on the Don, and in Tavrida, to form his transport for the conquest of that district.*

Camels could be obtained in the Orenburg district by requisitioning, by hire at the market price through the Government officials, by contract, and by pur-

* Butkoff's *Materials for the History of the Caucasus in the Eighteenth Century*, Chapter 213, page 373.—*Author*.

chase. The requisitioning of camels from the population was considered impracticable, as the burden during the time the animals were retained did not fall upon all the country equally, but on special localities; and it would unfortunately fall on precisely those districts which had suffered most during the late troubles in the Orenburg district. It was considered, moreover, improper to requisition camels in the Orenburg district for an expedition, which was not to be carried out in the interests of Orenburg, but by troops equipped in another district. The officials could not, therefore, be expected to work so energetically, and the inhabitants would look askance at any such requisitioning.

Besides this, requisitioning camels is generally unfavourable to Government in the long run. To begin with, in past expeditions Government have had to pay 10 *roubles* a month for each camel, although there have been cases in which it paid less. Then, to encourage the Kirghiz to bring in their animals quickly, and to recompense in some measure those owners whose camels were taken for the army, for each camel which perished 40 or 50 *roubles* had usually to be paid to its owner. But even this compensation did not help the business; for of course the Kirghiz never brought in their good strong camels on requisition, as they required them to carry their own goods in their wanderings. The amount paid for a camel which died did not recompense them for the loss of a strong and serviceable animal, and therefore the worst and feeblest were given over to Government. Another source of failure was that the camels were not left in charge of their own owners, but were handed over to drivers obtained from the community at large, and therefore the animals were not well looked after and soon got into a bad state. The compensation for camels lost and the monthly payments for subsistence amounted to a very large sum when a large requisition had been made.

Requisitioning camels, even though large allowances are made and liberal compensation given by Government to the Kirghiz, always arouses a certain amount of discontent among the people, as the carrying out of the requisition must of necessity be accompanied by a certain amount of force. This discontent has at times been so great, that whole *auls* have been known to migrate at once on the rumour of a requisition being heard. In short, with liberal monthly payments and liberal compensation for animals lost, the requisitioning of camels, in addition to all its other disadvantages, involves the Government in expenses which are at best not below those entailed by hiring animals. In any case, requisitioning of camels must be looked on as an extreme measure, only to be adopted when all others fail; but it may be resorted to, as a sort of land tax, when a small number of animals are required for a short time.

For the expedition against Khiva in 1839, as the expenditure allowed was very small, and as everything was cut down to the lowest point, orders were issued that camels were to be obtained by requisition from the inhabitants. With this object the President of the Orenburg Frontier Committee, General Hens, went on the 13th (25th) May to the residence of the Sultán of the Western Tribes of the Orenburg Kirghiz, who had been warned of his arrival and ordered him to assemble as many as possible of the leading men of the neighbouring clans of the horde. Having explained the object of his visit, Hens ordered them to circulate throughout the horde the statement of the requirements of Government, and he also directed the Sultan to send men to inform the Elders of the more distant clans.

Although those assembled at the first meeting listened to the statement of what was required of them without expressing disapproval and promised to

fulfil all the demands of Government, many disputes were caused by this requisition; and on a second meeting being held, Hens explained to those present that Government did not expect them to dispute, but to furnish the camels; and that if they did not do so, the animals would be taken without their consent by the troops, which had already been equipped and sent into the steppe.*

The Kirghiz delivered 11,500 camels and 2,300 drivers, and 36 *roubles* were paid by Government for each camel. The drivers received 2 pounds (1·8 lbs. English) of groats and $\frac{1}{2}$ pound (·4 lbs. English) of meat daily. In cases of necessity it was allowed to issue 3 pounds (2·7 lbs. English) of flour daily per animal to keep up its strength.†

Among the camels furnished, many were soon found to be very weak; and this was quite natural, as it was much more profitable for the Kirghiz to furnish bad than good animals, and for either the sum of 36 *roubles* was paid. Some of them perished in the first marches. As camel drivers, there had been furnished only poor men, who were not camel-owners; and such men had no interest in the preservation of the animals. The meat ration of $\frac{1}{2}$ pound a day was little for the Kirghiz; and the drivers intentionally enfeebled the animals in the hope of getting their flesh to eat. Many Kirghiz, thinking more of their stomachs than of the camels, stole the flour destined for the latter. From the first day of the campaign drivers began to desert from the army; and at last Perovski had to order two such deserters, who were retaken, to be shot. Desertions then ceased; but troubles with the drivers never came to an end, and the army, so to speak, was only an escort for its own camel drivers.

The great losses among the camels was one of the principal causes of the failure of Perovski's Khivan campaign: indeed, the General, in his Order to the troops of the 1st (13th) February 1840, called it the prime cause of their disasters. "Notwithstanding all the hardships they had undergone, the men were fresh and in a fine state of *morale*, the horses were in good condition, and supplies were abundant. Only one thing caused our failure—the loss of a large portion of our camels, which deprived us of all means of transporting supplies for the rest of the troops." From Fort Ak-Bulak to the first inhabited places of Khiva was about 400 miles, *i.e.*, 1½ months' march; and on the remaining camels, besides military stores, only one month's supplies could have been carried for men, horses, and camels.

The camel drivers requisitioned from the population in 1873 gave no less trouble to the Turkistán Army in the Khivan campaign. When that army started on its campaign, it had 1,250 camel drivers; but as it moved into the desert, the desertions among them became daily more frequent, and in deserting they carried off one and sometimes two camels each. It must be stated, however, that their treatment was very bad, as they only received 15 *kopecks* and a pound of flour daily. They could do nothing with the money, and during the campaign it was difficult to cook cakes from the flour.‡

The second method of obtaining camels,—that of Government hiring them in the open market,—although it has its advantages, yet it cannot be considered a favourable system. It requires the despatch into the steppe of a number of trustworthy officials perfectly acquainted with the work, and the cordial co-operation of the Local Administration. Hiring camels from the Kirghiz is, however, a very slow matter, especially when any large numbers are required,

* *Description of the Winter Campaign against Khiva in 1839-40*, by M. Ivánin, pages 83—84.—*Author*.

† *Idem*, page 86.—*Author*.

‡ *A Military Statistical Review of the Turkistán Tract*, by L. Kostenko.—*Author*.

and is only advantageous for Government when the persons to whom the conduct of the operation is entrusted are entirely trustworthy.

The third mode of obtaining means of transport by contract has been continually tried in Orenburg during the last few years, and has considerable advantages over the requisitioning of animals from the Kirghiz. The only drawback is that, owing to the want of trade competition, the furnishing of camels to the army in Orenburg is in the hands of a few individuals, who take advantage of their situation and ask a very high price for their animals. The sale of camels to the contractors is also far from favourable to the Kirghiz population, because a contractor will pay but a very small price, and, besides, as the Kirghiz are very illiterate and do not understand our laws, their accounts with the contractor and his clerks are nearly always to their own disadvantage. It must be added that contractors sometimes bind the Government down to various vexatious and disadvantageous conditions, such as the retention of the camels for a certain more or less prolonged time with the army, and at the same time never themselves make any such conditions with the Kirghiz.

During the Khivan campaign of 1873, Government paid the contractor (Miakinkoff) $22\frac{1}{2}$ roubles *per mensem* for the first $2\frac{1}{2}$ months for each camel with the Orenburg force and 18 roubles *per mensem* afterwards. Although the contractor was unable to deliver at the Emba post by the end of March all the camels (6,375) contracted for by him, still, within about two months from the date of the signature of the contract, in spite of it being a bad season of the year for the hire of camels, and the Emba post being far from the winter quarters of the largest and richest Kirghiz clans, he succeeded in gathering 4,722 animals at that post by the end of March. With these the Orenburg column marched, and by the 1st (13th) of April 400 more camels joined them as *étappen* transport, instead of the 1,200 stated in the contract.

The 800 animals deficient were hired by General Verevkin from the Chiklintsi on the contractor's account at a charge of 23 roubles a month. This failure on the part of the contractor, and the consequent delay of some days in the delivery of the camels to the troops, by which their advance had to be put off from the middle of March to the end of that month, was a source of sore displeasure to the detachment. But, looking impartially at the matter, it must remain a source of wonder how Miakinkoff managed to fulfil his contract as well as he did, considering the novelty of the experiment* and other unfavourable conditions, especially if we remember also that this very individual was at the same time transporting infantry and artillery on sledges from Orenburg to Orsk, along with several tens of thousands of *puds* of baggage and provisions from these places and from Uralsk.

In consequence of the great expenditure imposed upon Government by the hire of transport animals for steppe campaigns, many personages in the Orenburg Government were in favour of purchasing camels rather than of hiring them through contractors, as the purchased animals could be sold by auction at the end of the campaign. This proposal had also been considered officially; and the Government Control Department, in drawing up the scheme of expenditure for 1873, had thought the amount required for the hire of camels for the troops detached from the Orenburg frontier for steppe operations, till the plans for the Khivan campaign were arranged, too great, and had come to the conclusion that animals should be purchased and not hired.

* The deliveries of camels in former years were neither made in such considerable numbers nor so successfully as in 1873, and besides were made at favourable seasons of the year.—*Author.*

The Government Control Department considered this possible for the following reasons:—

(1) To transport the baggage of the force as fixed by the Organization Committee of the Turkistán District, the price of camels and the payment for their hire being the same as in the Orenburg district, the local Governor-General had considered it more advantageous to Government to obtain the number of camels required by purchase, although the time (four months) for which they were required was less than that for which camels were usually hired in the Orenburg steppe.

(2) The hire of camels is also disadvantageous to Government because, after the stores have been carried to their destination, the camels are either left for a long time with the troops doing nothing, or are allowed to be taken away, and in the latter case, new contracts have to be entered into for the return march of the troops.

(3) For all the troops which had to be sent into the steppe from the Orenburg frontier in 1873, 2,200 camels were required, the hire for which, for a seven-months' campaign in the steppe, would have been 273,688 *roubles*. If the 2,200 camels had been bought, their cost would have mounted to 110,000 *roubles*; and, adding to that the pay of 440 camel-drivers at 5 *roubles* a month and 31 *caravan-báshis* at 25 *roubles* a month, in all 20,825, the total expenditure would have been 130,825 *roubles*, which would have been less than the actual expenditure by 142,863 *roubles*.

Against the purchase of camels the following disadvantages may be urged:—(1) It is a slow method, and if large numbers are required, prices may rise beyond all measure; and (2) hired camel-drivers have no interest in the preservation of their camels, and neglect them till they perish.*

Let us add that the required number of camels for the Akhál-Tekke Expedition was obtained by one means or another and collected at the Lower Emba fort. For their delivery at Krásnovodsk they were to be sent to Sám (wells of Jár-Kuduk), whence they were to be moved in *échelons* of such strength as should be dictated by circumstances and the quantity of water in the ponds and wells on the road from Sám.

Jár-Kuduk is about 166½ miles (250 *versts**) from the wells of Masssheh, and a march over this expanse would meet with no difficulties, as there is a sufficiency of water and forage. From Sám to Krásnovodsk, camels might be marched by the wells of Senek, Porsu-Burun, and the Kára-Bughaz strait, or from the wells of Senek round Kára-Bughaz bay. By the former route from Sám to Krásnovodsk is 600 miles, and by the latter somewhat more. Thus the camels had a march of 800 to 950 miles before them, of which 666 miles were through country quite unknown to us.

The description and strength of the escort would depend upon the number of *échelons* into which the camels would be divided, the quantity of water at the halting places, the possibility of attacks, especially within the limits of the Krásnovodsk sub-district, and other reasons.

All these matters were weighed by the Commander of the Expedition; and though the operation of delivering camels from the Orenburg district at Krásnovodsk was a complicated one, still it was possible, and it would at once furnish the Expedition with the required number of transport animals.

General Skobelev resolved to summon to St. Petersburg Vasili Yefimovitch Miakinkoff, a merchant of the first guild of Orenburg, who was known to him as a camel contractor in the Khivan campaign, in order to treat

* Colonel Ivánoff's *Account of the Khivan Campaign of 1873* in MS.—*Author*.

with him for the supply of transport animals. A telegram, which did not state the reason why he was wanted, was despatched to him on the 3rd (15th) March. This was done so as not to spread the report of the forthcoming operations, and therefore raise the price of camels.

Hindered by snow-drifts on the Orenburg railway, he only arrived at St. Petersburg on the 17th (29th) March. On its being proposed to him that he should undertake the furnishing of camels on hire, he refused, on the ground that the place in which the camels would have to work was unknown; but he offered to buy 6,000 camels for Government, on the condition that they should be taken over from him at the Lower Emba fort.

This was agreed to; and after long discussions a preliminary contract was drawn up, the principal clauses of which were as follows:—Miakinkoff was to deliver at the Lower Emba fort 6,000 camels at 110 *roubles* each,* as follows:—1,000 camels on the 15th (27th) June, 15th (27th) July, 1st (13th) and 15th (27th) August, and 2,000 on the 1st (13th) September. The contractor was allowed to deliver, if he desired it, 100 extra camels for each 1,000 animals, i.e., 600 camels besides the 6,000 contracted for, and he was to be paid 100 *roubles* for each such extra camel. The total amount of the contract was 820,000 *roubles*. For every camel short of the 6,000 contracted for and not brought forward at the date of the departure of the last camel column, 10 per cent. of its cost was to be deducted from the earnest-money fixed by the contract.

Of the 6,000 camels, 1,000, if it were considered necessary by the Commander of the Expedition, were to be delivered at Gurieff or at Astrakhan on one of the dates laid down above, but Miakinkoff was to have 60 days' warning of this. The decisions of the person appointed by General Skobelev to receive the camels, as to whether they were fit for service or not, was to be final.†

Along with the camels, Miakinkoff undertook to deliver at Astrakhan 200 *kibitkas* and 1,200 *yulameikas*; the price of the former, delivered at Astrakhan, being 200 *roubles* each, that of the latter 100 *roubles*—in all 160,000 *roubles*. Miakinkoff was permitted to deliver one *kibitka* for every two *yulameikas*, but on the condition that the total number of the former did not exceed 400.‡

The duties of receiving the camels from Miakinkoff and arranging for their despatch to Krásnovodsk were entrusted to Colonel Ivánoff of the General Staff, Chief of the Staff of the 24th Infantry Division, who had

* The fearful winter of 1879-80, with its almost uninterrupted storms, had prevented any inquiries being made as to the actual state of matters in the Orenburg steppes, and the price of camels. In any case it might have been supposed that, in consequence of the severity of the winter and the drought of the previous summer, there could not be a superfluity of animals in the country. This explains the high price demanded for each camel. The Governor-General of Orenburg, to whom the draft of the contract with Miakinkoff was given for revision, raised no objections to the price asked for.—*Author*.

† A person offered General Skobelev to supply from 12,000 to 14,000 camels on the following conditions:—(1) within four months of the date of the signing of the contract [not later than 1st (13th) March] to deliver that number of camels either at Chikishliar or Krásnovodsk; (2) to place as many of these camels as might be required at the advanced posts; (3) all camels, except those which might be delivered at the advanced posts, to be kept up to full strength; (4) for every camel supplied the State was to pay 285 *roubles*; (5) as security for the fulfilment of the agreement, the contractor consented to lodge the sum of 200,000 *roubles*; (6) at the conclusion of the Expedition all camels were to become the property of the State. This proposal was held to be worthy of but little serious consideration.—*Journal of the Staff with the Troops operating in Trans-Caspia*, Part I, No. 38, 1880.—*Author*.

‡ For the contract concluded with Miakinkoff for the supply of camels, *kibitkas* and *yulameikas*, see Appendix No. 11.—*Author*.

served for long periods at Orenburg and in Turkistán, and had taken part in many expeditions. He had great experience, and was probably better qualified than any one else for the carrying out of this difficult duty.

In the beginning of April, Colonel Ivánoff was sent to Orenburg, where he was to conclude a contract with Miakinkoff on the basis of the preliminary contract which had been drawn up at St. Petersburg by General Skobelev. He had thereafter to go to the Lower Emba fort to take over the camels, and send them to Krásnovodsk under escort of troops, which were to be put at his disposal by the Orenburg Government.

Skobelev had, from the first, expressed his opinion that two *sotnias* would be required as escort for the camels, allowing from 40 to 50 Cossacks to each column of 1,000 animals. On account of the shallowness of the water on the north-east coast of the Caspian, the great difficulties of landing at the mouth of the Emba, and the large expenses which would be caused by transporting Cossacks from the Caucasus, the Commander-in-Chief of the Army of the Caucasus proposed that the two escort *sotnias* should be taken from the Orenburg Military District.

On the 20th March (1st April) General Krijanovski expressed to the Commander-in-Chief his readiness to do all in his power to facilitate the march of the camel columns to Krásnovodsk, and told off the *sotnias* for this purpose from the Orenburg district.* Further communications between Skobelev and Krijanovski led to not only two but five *sotnias* being sent to the Lower Emba fort as escort for the camels.

Colonel Ivánoff was recommended to make his camel columns as large as possible, so as to deliver the transport animals more quickly to the troops and to economise escorts. In forwarding the camel *échelons* to their destination, Colonel Ivánoff's duties were to provide the Commander of the escort with instructions, in which he was enjoined to pay particular attention to the care of the camels and the preservation of their health, and to see that the Commander of the escort fully understood that he would be brought to trial for any neglect of duty involving the loss of an animal. All ranks of the escort were enjoined to be mild and humane in their treatment of the camel-drivers; but the latter were to be closely observed, and no infraction of the standing orders of the *échelon* was to be allowed. Measures were to be taken to ensure a proper number of buckets and troughs for watering the camels being provided, as also shovels for digging wells. Colonel Ivánoff had also to furnish the *échelons* with routes, based on the information which he could pick up locally from the Kirghiz or the Local Administration, or on that received from General Skobelev's Staff. This Staff expected to receive the required information from the Prefect of Mangishlák, to whom in the middle of March orders had been sent by telegraph to send intelligent and trustworthy men to reconnoitre the roads from the wells of Senek to the sands of Sám, and to ascertain whether they could be traversed by six parties of camels of 1,000 head each. The reports were to be sent in by the 1st (13th) May. Measures were to be taken to clean out the wells on these roads, or, if necessary, to dig new ones; and guides were to be obtained and sent to the Lower Emba fort by the 10th (22nd) June.

Although the steppe equipment of the Cossack escorts was to be prepared by the Orenburg Government, still, in cases of deficiencies being

* *Vide* Skobelev's letter to the Commander-in-Chief, No. 86, dated 23rd March (4th April) 1880.—*Author*.

reported, Colonel Ivánoff had to demand the necessary assistance from the Local Military and Civil Administrations. "I hope you will always remember," wrote Skobelev, "that from the day these Cossacks are put at your disposal, they become part of the Trans-Caspian Field Force, and therefore the responsibility for their equipment and for the supplies of man and horse lies upon us."

Besides camels, Colonel Ivánoff was ordered to receive 150 camel-drivers hired by Miakinkoff, and also supplies for them for the whole journey to Krásnovodsk.*

Colonel Ivánoff was directed also to have a *kibitka* and a *yulameika* made under his own personal superintendence, taking as a pattern those used by the troops of the Orenburg district. These were to serve as a pattern for the tents to be taken over from Miakinkoff at Astrakhan.†

Colonel Ivánoff left St. Petersburg on the 3rd (15th) and Miakinkoff on the 1st (13th) April. This is usually the time at which the Kirghiz begin to nomadise; but the severe winter of 1879-80 had caused great poverty among the population, and had therefore been so far of service to the Expedition, that it had prevented the Kirghiz from emigrating. Miakinkoff was thus enabled to fulfil his contract.

Besides the Orenburg district, the Khánate of Khiva, the Mangishlákl Prefecture, the country between the Atrak and the Gurgán, and the Bujuurd province were used as transport bases.

At Táshkand, General Skobelev had long before fixed upon Alexander Yegórovitch Gromoff, merchant of the first guild, as a camel contractor, who had been known to him during the Khivan and Khokand campaigns. After some negotiations, a contract was signed with him at Táshkand on the 23rd April (5th May), to the effect that he was to furnish on hire at Krásnovodsk 5,000 camels of good quality, each able to carry a weight of 11 *puds* (397·1 lbs.) for not less than 16½ miles a day. There was to be one driver for every five camels, and their food and that of the camels was to be arranged for by the contractor. The camels were to be delivered at Krásnovodsk within two months, or at Petro-Alexandrovsk within 22 days of the date of signing the contract. The payment for the camels was to commence from the day of their arrival at Krásnovodsk, and to be calculated at 25 *roubles* each *per mensem* on the march to Krásnovodsk. Gromoff was to receive 10 *roubles per mensem* for each animal which arrived at that place. He was to keep this supply of 5,000 camels always complete; and Government was not to be held responsible for animals which perished. If a camel were lost on the road to Krásnovodsk from any cause whatever, including also raids of brigands, the payment of 10 *roubles* was not to be made for it. Losses among the animals were to be made good within a month, and, if not, Gromoff was to pay a fine of 50 *roubles* a month for each camel deficient. Gromoff was to receive 25,000 *roubles* at Táshkand as an advance, on security furnished by Táshkand merchants, and 60,000 *roubles* when the animals had been inspected and found serviceable at Petro-Alexandrovsk, on account of monthly hire.‡

The Prefect of Mangishlákl, Colonel Navrotski, was ordered to obtain as many camels as he could by the 15th (27th) May, and Petrúsevitch was to buy

* For the conditions entered into with Miakinkoff for the hire of camel-drivers and the provision of their supplies, see Appendices Nos. 12 and 13.—*Author*.

† Skobelev to Ivánoff, No. 99, dated 28th March (9th April),—*vide* Appendix No. 14. For the description of a *yulameika* and of a *kibitka*, see Appendices Nos. 15 and 16.—*Author*.

‡ See Contract with Gromoff, dated 23rd April (5th May), in Appendix No. 17.—*Author*.

2,000 of these animals beyond the Atrak.* The Atrak camels had to be replaced by wheeled transport.

The total number of camels which had been arranged for was, therefore, 18,000 to 20,000 head; and if this number could be concentrated, there was good reason to hope that the required quantity of supplies could be transported to the intermediate base during the summer and autumn of 1880, after which an advance could be made into the Tekke Oasis. The Expedition would thus be independent of the railway from Micháelovsk to Kizil-Arvat, the slow rate of progress of the construction of which was not clear.

On the 7th (19th) March, General Skobeleff presented his project for the Akhál-Tekke Expedition, the principal measures proposed in which were as follows:—

Of the 8 battalions at that time on the Atrak line, the (3rd) Navaga, (1st) Apsheeron, and (3rd) Daghistán were to be withdrawn to the west coast of the Caspian and join their regimental head-quarters without relief.

Up to the 1st (13th) May as many provisions as possible of all kinds were to be transported from Chikishliar to Duz-Olum; and in May Kizil-Arvat and Khwája-Kala were to be occupied by 4 battalions† taken from the Chát and Duz-Olum garrisons, a field battery (divided by half-batteries between Chát and Duz-Olum), a mountain battery (which was to be brought over from the west coast of the Caspian in the second half of April, with no horses but those of its officers), and two *sofnias* of Cossacks taken from the Atrak line. The force was to have two months' supplies on camels to be furnished by the Trans-Atrak Turkumáns. When they had carried their stores to Kizil-Arvat, these animals were to work between that place and Duz-Olum.

On the occupation of Kizil-Arvat, a party of Engineers was to be sent out towards the Gulf of Micháelovsk, to meet another party which was to advance from the gulf, thus making a complete survey of the ground for the projected railway line. With this view the Micháelovsk post was to be occupied on 1st (13th) May by a company of the Krásnovodsk Local Battalion, a troop of Cossacks, and two guns taken from the armament of Krásnovodsk.

Simultaneously with the occupation of Kizil-Arvat, *i.e.*, in the first days of May, a force of 1 battalion, 2 *sofnias*, and 4 guns was to be mobilised in the Amu-Daria sub-district and placed on the southern frontier of the Khánate of Khiva, to distract the attention of the Turkumáns, to cover the transport of supplies from the Khánate to Kizil-Arvat, and to connect the Caucasus Army with the Amu-Daria.

If Khiva and Mangishlák justified the hopes which had been built upon them as countries from which transport could be drawn, it would also be necessary, in order to completely cover the road between Krásnovodsk and the Amu-Daria, to place a small force at Kum-Sebshen.‡

In the beginning of June, 3,000 Mangishlák camels would arrive at the wells of Kush-Ab,§ where they would remain at pasture for the rest of this month, under escort of a *sofnia* of Cossacks detached for this purpose from Fort Alexandrovsk.

* Orders for the purchase of camels on the Atrak had been given by General Aide-de-Camp Prince Melikoff in the end of March. Petrúsevitch, therefore, confined himself to the carrying out of what had been communicated to him by General Murávieff relative to the purchase of 2,000 camels, which were in no case to be employed in the transport of provisions to the advanced posts.—Petrúsevitch to Murávieff, 18th (30th) April 1880, No. 1121, also his telegram No. 1122.—*Author*.

† 1,400 men.—*Author*.

‡ On the route between Krásnovodsk and Sári-Kámish.—*Author*.

§ The third halting place from Krásnovodsk on the road to Sári-Kámish.—*Author*.

By the 1st (13th) July the quays would have been built in the Gulf of Micháelovsk, condensers set up, and the light railway laid for two marches to the wells of Tágir. The transport of supplies by rail to Tágir and thence by 3,000 camels to Kizil-Arvat would then begin. By the 1st (13th) July a year's supplies for the whole Army of Operations* (7,500 men and 3,000 horses) would have been collected at Krásnovodsk, and at Chikishliar ship's provisions† for the troops on the Atrak line (6,000 men and 1,800 horses) till 1st (13th) January 1881.

In order to protect the *termini* of the light field railway and the movement of the camel columns, a mobilised battalion and two *sotnias* were to be landed at the Gulf of Micháelovsk by the 1st (13th) July, and a field battery transported to Krásnovodsk, to be at hand if required. All these troops would belong to the Army of Operations.

Thus, by the end of July, supplies would begin to arrive at Kizil-Arvat both from Chikishliar and Micháelovsk. The collection of supplies at Kizil-Arvat and Khwája-Kala could only be ensured by sending a force of cavalry to both these points from the Atrak to carry out continual raids against the nearest Tekke clans.

By the 1st (13th) of July, work might be begun upon the permanent railway; and if so, it would be advisable to await its completion before dealing the final blow at the enemy.

Here ended General Skobeleff's proposals with regard to the carrying out of the Expedition. He was nevertheless in a position to determine both the quantity of supplies necessary for the troops and at what time they ought to be transported to Krásnovodsk and Chikishliar, likewise the figures representing the expenditure for the year 1880, as follows:—

During April, May, and June there would have to be transported to Krásnovodsk supplies for one year for the Army of Operations (7,500 men), a year's consumption of oats for 3,000 horses of the same force, and hay for those horses for six months, in all 257,125·12 cwt. Thus, by the 1st (13th) July 1880, there would be concentrated at Krásnovodsk a year's supplies (except hay) for the whole army till 1st (13th) July 1881.

The supplies for 700 camel-drivers (8,064 cwt.) were to be at Krásnovodsk by the 1st (13th) June, and those for 1,000 coolies (4,800 cwt.) by the 15th (27th) April.

Besides the above, there had to be transported to Krásnovodsk by the 10th (22nd) April 3,000 telegraph poles and 100 miles of telegraph wire; by the 1st (13th) May condensers, materials for setting them up, naphtha, 500 *kibikas*, 5,000 camel-saddles, 2,500 frames for pack-saddles, wood for quays and huts, felts for bedding, ropes and firewood; by the 15th (27th) May a hospital, the Red Cross stores, and *pakóls*; by the end of May the light field railway; by the 1st (13th) June 100 *arabas*, and by the 15th (27th) August 8,000 fur-cloaks.

At Chikishliar and on the Atrak line there were stores for 6,000 men and 2,000 horses, as follows:—Provisions to the 1st (13th) April, oats to the 1st (13th) July 1881‡, and ship's provisions till 1st (13th) July 1880. There would,

* That is, for the force destined to move into the Akhál-Tekke Oasis for operations against Gok-Tapa and the occupation of the country.—*Author*.

† The troops stationed in Trans-Caspia since the occupation of Krásnovodsk in 1869 had always received so-called ship's provisions, which consisted, besides meat, of garlic, onions, pepper, salt, rice, fruit, acids, spirits, lard, laurel leaves, tea, sugar, and preserved vegetables. The details will be noticed in considering the commissariat arrangements for the Expedition.—*Author*.

‡ Of this quantity, 11,840 cwt. had to be transported to Alexandrovsk and Krásnovodsk, to feed 1,000 Kirghiz horses and 4,000 camels.—*Author*.

therefore, have to be transported to Chikishliar by the 1st (13th) June ship's provisions for the 6,000 men on the Atrak line up to 1st (13th) January 1881 (11,840 cwt.). After that, provisions for the garrisons on the Atrak line up to 1st (13th) July 1881 would have to be brought over, *viz.*, 3 months' supply of flour or biscuits and groats (between 1st (13th) April and 1st (13th) July), in all 12,160 cwt., and 11,840 cwt. of ship's provisions.

Besides these, there had to be landed at Chikishliar by the 1st (13th) April bedding felts, ropes, firewood and hospital stores, by the 1st (13th) May 300 *kibitkas*, and by the 15th (27th) August 5,000 fur-cloaks.

The expenditure for the Expedition of 1880 was calculated at 7,207,000 *roubles*, as follows:—

	Roubles.
Ship's provisions for the Army of Operations for 1 year	340,000
Transport of provisions to Krásnovodsk	40,000
Transport to Krásnovodsk of a year's supply of flour or biscuits and groats for the Army of Operations	43,000
Cost of oats for the Army of Operations	355,000
Transport of oats to Krásnovodsk	175,000
Preparation of hay for the Army of Operations and its delivery at Krásnovodsk	105,000
Cost of a year's supplies for 700 camel-drivers and 1,000 coolies	201,000
Transport from Chikishliar to Alexandrovsk and Krásnovodsk of oats for the supply of camels and horses bought in Mangishlák	20,000
Supply of ship's provisions till 1st (13th) January 1881 at Chikishliar	120,000
Sea transport of ship's provisions till 1st (13th) January 1881 to Chikishliar	16,000
Supply of hay to last till 1st (13th) January 1881 at Chikishliar	60,000
Transport of 3 months' supplies of provisions to Chikishliar	11,000
Ship's provisions for the troops on the Atrak line to 1st (13th) July 1881	120,000
Transport of provisions to Chikishliar	16,000
Supply of hay at Chikishliar for period between 1st (13th) January and 1st (13th) July 1881	60,000
Light field railway	500,000
Harness for horses for this railway	15,000
Condensers	315,000
Erection of condensers	15,000
Pay of 1,000 coolies for 5 months	150,000
Cost of 500 camels	500,000
Cost of 1,000 Kirghiz horses	100,000
Preparation of 3,000 telegraph poles... ..	15,000
Transport of stores on the Atrak line by hired camels	600,000
500 camel-saddles	25,000
Frames (<i>Kajáwas</i>) for pack saddles	20,000
13,000 fur-cloaks	72,000
800 <i>kibitkas</i>	240,000
100 <i>arabas</i> for field hospitals	3,000
Ropes	14,000
Quays	60,000
Bedding felts	30,000
Hire of 100 Turkumán boats for 5 months	30,000

				Roubles.
Cost of postal communication with the Amu-Daria	...	...	...	30,000
Pay of 100 <i>Jigits</i> for 1 year	...	...	...	55,000
Construction of hospital huts	...	...	...	300,000
Maintenance of hospitals	...	...	...	130,000
Meat rations for 1 year	...	...	...	500,000
Extra allowance to officers	...	...	...	200,000
Forage allowances	...	...	...	150,000
Ration allowances	...	...	...	180,000
Allowances of the Commander of the Expedition till 1st (13th) January 1881	...	...	...	30,000
Extraordinary expenditure	...	...	...	250,000
Unforeseen expenditure	...	...	...	250,000
Office Expenditure	...	...	...	6,000
Fuel allowances	...	...	...	400,000
Pay of camel-drivers till 1st (13th) January 1881	...	...	...	224,000*

General Skobelev's plan in its general features received the sanction of the Commander-in-Chief of the Army of the Caucasus†).

In fulfilment of this plan, General Skobelev telegraphed on the 11th (23rd) March to General Murávieff at Chikishliar to adopt most energetic measures to send as much supplies as possible, except hay, for 2,000 men and 800 horses from Chikishliar to Duz-Olum by the beginning of April. He was also to take care that the battalions at Chát and Duz-Olum, the field battery, and four *sovnias* of Cossacks were prepared in every way to take the field, and had their boots, foot-cloths, linen, cholera-belts, kit-bags, great coats, bedding, felts, and tents in a serviceable condition; that the sickly and weak men were weeded out; that a detailed inspection was made of the magazines; and finally, that at least the battalions about to take the field were put through a musketry course at ranges up to 400 paces inclusive.‡

At the same time, the Commander-in-Chief of the Army of the Caucasus, Prince Melikoff, ordered Murávieff to proceed energetically with the transport of supplies and forage to Duz-Olum, and to prepare as large a quantity of hay as possible between Chikishliar and Duz-Olum. Moreover, in order to facilitate the despatch of three mobilised battalions of the 21st Division to Trans-Caspia, Prince Melikoff, in concert with General Murávieff, agreed in the advisability of relieving the 1st Apsheron and 3rd Daghistán battalions, bringing them down to Chikishliar and transporting them to the west coast of the Caspian in the beginning of April. General Murávieff was further directed to at once commence the purchase of camels, but in small numbers only, for to at once proceed to the purchase of a large number of animals would, according to the reports, have been difficult.§

Next to the question of the provision of means of transport, that of the facilities for navigation offered by the Gulf of Micháelovsk gave General

* Skobelev to the Commander-in-Chief, No. 16, dated 7th (19th) March 1880.—*Vide Appendix No. 18.*—*Author.*

† The Commander-in-Chief to General Skobelev, No. 42, dated 15th (27th) March 1880.—*Author.*

‡ *Journal of the Staff of the Army operating in Trans-Caspia during 1880, No. 4.*—*Author.*

§ *Journal of the Staff of the Army operating in Trans-Caspia during 1880, No. 34, page 20* (telegram from Prince Melikoff, to the Commander-in-Chief, dated 19th (31st) March 1880).—*Author.*

Skobelev's most cause for anxiety, as on this depended the establishment of a line of communication from that gulf to Kizil-Arvat, and the construction of a base at the latter place. The Gulf of Micháelovsk is in the south-eastern part of the Caspian Sea, to the south of the Bay of Balkhán, with which it forms the Peninsula of Dárja.

The gulf begins at the Island of Rau, 18½ miles from Krásnovodsk, extends eastward, and finishes in two narrow inlets, one of which is navigable.

The gulf is dotted over with sandy islands devoid of all vegetation, and 60 to 300 feet high. The navigable channel is very tortuous; it runs straight for 18 miles (nautical) from the Island of Rau, and then winds about between the Islands of Gurgumul, Klich, and Uzun-Ada on the one side, and Bogulyár, Ai-Kizil, Erkegli, Bik-Mamed, and Mengli on the other. The channel at its narrowest part is 490 feet broad (*e.g.*, between the Islands of Uzun-Ada and Erkegli and opposite the Island of Mengli). The sandhills, which rise up all over the gulf, are of loose formation, and change their shape with every strong wind, thus rendering navigation very difficult. The bottom is sand and mud.

Surveys of the Gulf of Micháelovsk had been made during the hydrographic survey of the Caspian Sea between 1856 and 1874, at first by Ivashintseff and afterwards by Pushtshin, and a chart had been made of the gulf itself in 1874 by Captain Durneff of the Flotilla Corps. In the *Caspian Sea Pilot* the description of the Micháelovsk Gulf runs as follows:—

"Shallow, and hardly navigable at present for even small ships, the Gulf of Micháelovsk, dotted as it is with numerous sand islands, and exposed to the influence of every wind, cannot be of use to us as a good waterway in the direction of Central Asia.*"

One of the reasons which induced the authorities of the Caucasus Army to abandon, in 1871, our advanced positions in the Balkhán hills at Tásh-Arvat-Kála and Mulla-Kári was the difficulty of navigating the Gulf of Micháelovsk. In October of that year the conclusion was arrived at that "the Micháelovsk post cannot, and should not, be used as our base, if we have again to send troops to the Trans-Caspian steppe. In the case of a prolonged occupation of the Balkháns, it would not only be impossible to reduce the strength of the Krásnovodsk force (one battalion of 1,000 men and a local detachment, besides artillery and Cossacks), but in all probability it would have to be increased; and to ensure safe communication between Tásh-Arvat-Kála and Krásnovodsk, it would either be necessary to largely increase the sea-transport available, and in a measure also the land-transport, or, by giving up the navigation of the Gulf of Micháelovsk, to send supplies by land only from Krásnovodsk, along the northern shore of the Bay of Balkhán." The 1½ battalions and 2½ *sovnias* stationed in the Balkháns in 1870 could not be supplied with all necessary stores *viâ* the Gulf of Micháelovsk, and hay had to be sent on camels round the Bay of Balkhán. To the disadvantages of the Gulf of Micháelovsk must also be added that, as was found in 1871, the excessive saltiness of its water damages the pipes and boilers of steamers to such an extent, that no steamer can ply on it for more than a year without undergoing most thorough repair; that the level of its waters frequently changes; that its navigable channel is not always the same; and finally, that it is only protected by the Micháelovsk post, in which there is not a drop of water fit even for animals

* *The Caspian Sea: a Hydrographic Description and Guide to its Navigation*, by 2nd-class Captain N. Pushtshin, 1877, page 284.—*Author*.

to drink, and which is some distance from any place suitable for a permanent station of troops.

Taking these things into consideration, the Caucasus authorities had proposed to construct a railway from Krásnovodsk to Kizil-Arvat (226½ miles), as they did not think it possible to form a base on the Gulf of Micháelovsk, and preferred to add 80 miles of very difficult, and consequently very expensive, line to the proposed railway, some of which would have to be constructed through cuttings in rocky soil. Naturally it was considered desirable to ascertain if the Gulf of Micháelovsk was really so difficult to navigate as it was said to be, and whether it was necessary to use only very small ships.

In order to examine the question from every point of view, the opinion of specialists in maritime affairs, such as the presiding director of the "Caucasus and Mercury" Company, Vice-Admiral Jandr, the manager of the maritime affairs of the same Company, retired Rear-Admiral Eftsberg, and the captain of the port of Baku, Rear-Admiral Svinkin, was invited by the General Staff.

These officers first referred to the *Caspian Sea Pilot*, in which it was stated that the Gulf of Micháelovsk could not be used as a waterway into Central Asia; that it was very shallow; that calms were usually the best time for navigation, but that in this gulf calms were more dangerous than storms, as in them ships could not be navigated; that the navigable channel was continually being changed by sands blown from the sandhills, and that the sandbanks were invisible. As far as the Island of Rau, deep-sea ships could navigate freely, and at that point their cargoes might be transferred to ships of light draught. This island had tolerably deep water on its western shore; but it was exposed to storms, and during these cargoes could not be transhipped. To disembark 12,800 cwt. of stores daily at Micháelovsk, 32 ships would be required,—8 unloading at Micháelovsk, 8 sailing towards that place, 8 returning to the Island of Rau, and 3 loading there. In the Caspian Sea there were no barges, and sailing ships would have to be hired, each capable of carrying 1,600 cwt. of stores, and steamers would be required to tow them. It was also impossible to navigate the Gulf of Micháelovsk by night without light-houses, and therefore the construction of these was indispensable. But how was this to be done? A special administration would be required to light up and extinguish the lanterns over an extent of 35 miles, and the arrangements would be most complicated. On the Volga there are large barges 280 feet long, which can carry up to 28,800 cwt. of stores; and if only 11,200 cwt. are put on them, they only draw 4 feet of water. These could, therefore, be used; but how were such long barges to be navigated through the narrow and tortuous channels of the gulf? Would they not run aground in the turnings? How were they to be brought across the sea? Their use was evidently risky.

The result of all these deliberations was, that it was determined to use the Gulf of Micháelovsk only as a secondary line of communication, and that Krásnovodsk should be made the base. The gulf need only be used as a waterway till the railway had been made from Krásnovodsk to the Gulf of Micháelovsk. The representatives of the Caucasus authorities (Generals Petrúsevitch and Gurchin) pointed out that this opinion had been all along held in the Caucasus, but that their plan had been rejected.

Naval Aide-de-Camp Makároff, who had been put under the orders of General Skobelev, gave it as his opinion, on the question being referred to him, after comparison of the pilot directions and the charts, that, notwithstanding its many disadvantages, the gulf might be used for the purposes of the Expedition, not

only as a temporary, but as a permanent route. Although the navigable channel changed its course, these changes could not take place abruptly, and the Gulf of Micháelovsk was like many of the rivers of Russia, and was navigable or otherwise according as it was properly explored. As there were no data to contradict his idea, Makároff came to the conclusion that "probably there were some ulterior reasons why they did not wish to make use of the Gulf of Micháelovsk," and that in any case the question was of such importance, that a reconnaissance ought to be made of the gulf and marks set up in it. He also undertook to transport river barges from the Volga to the Gulf of Micháelovsk, and thought that three powerful steamers should be provided to tow them.

This declaration forced the question to be raised : Was it not because our troops could not be supported in the Balkháns in 1870-71 that the navigation of the Gulf of Micháelovsk was pronounced impossible in such a decisive manner, and that it was stated that the gulf could never serve as a waterway towards Central Asia; and was not this, in its turn, caused by the insufficiency of suitable sea-transport, or by our want of knowledge as to how to utilise the transport we actually had?

General Skobelev agreed entirely with Makároff's idea, and at the end of the Expedition he said : "For me, personally, there never existed the slightest doubt upon the question; for, in 1871, I had had opportunities of convincing myself that the gulf was navigable. I was certain that there were some ulterior reasons for some people persisting in maintaining that it was not so."

In view of the importance of the question of the navigation of the Gulf of Micháelovsk, which, according to General Skobelev's idea, was destined to become a main route to the east, the latter asked to have a special committee formed, consisting of an officer of the Navy, an engineer belonging to the Department of Communications, and an officer of the General Staff, who should make a detailed inspection of the gulf in early spring, and settle the question as to whether it could be used for the purposes of the Expedition so as to form part of a line of communication to Kizil-Arvat.

At the same time, Skobelev considered it necessary to increase the effective strength of the Caspian Naval Flotilla by one deep-sea steamer, one tug, and five steam-pinnaces. This demand was based on the calculation that there were required for the army, for extraordinary transport of troops and for stores, three deep-sea steamers, and for towing barges on the Gulf of Micháelovsk, two tugs, and five steam-pinnaces of not less than 15 horse-power each, partly as despatch boats and partly to tug small barges and Turkumán boats. At this time the port of Baku was only able to spare four ships for the army, two of which were deep-sea steamers and two tugs. Of the former, one could only be handed over from the repairing dock in June, and of the latter, one was of small dimensions and out of repair.*

On Skobelev's requesting a committee to be formed to reconnoitre the Gulf of Micháelovsk, orders were issued for Colonel Tsikeln of the General Staff, and Lieutenant-Colonel Durneff Ist, of the Flotilla Corps, to proceed to the gulf. The latter reported himself to General Petrúsevitch in the beginning of April, and was at once ordered to proceed to the gulf, begin his survey, and set up marks and beacons.

As regards the proposed strengthening of the Caspian Flotilla, the Minister of Marine sent four steam-cutters of 5 horse-power each from the Baltic Fleet

* The Commander-in-Chief of the Army of the Caucasus to the War Minister, No. 23, dated 9th (21st) March 1880.—*Author*.

to the Caspian, but refused to send deep-sea and tug steamers, proposing to Skobelev to charter such as he required from the "Caucasus and Mercury Company." Afterwards there were placed at the disposal of the Temporary Commander of the Troops from the Caspian Flotilla, the deep-sea steamers *Baku* and *Nasr-ud-din-Sháh*, the tug *Chikishliar*, the steam-pinnace *Provórná*, and a sailing troopship as port ship at Krásnovodsk. Of these, the *Baku* could only be made available by the end of April, while the *Nasr-ud-din-Sháh* required repairs, and would not be ready till the middle of July. In addition to these vessels, had it been deemed necessary, the steamer *Araks* could have been made available for service in the Gulf of Micháelovsk, but she required new boilers.*

In consequence of the refusal of the Minister of Marine to furnish the steamers required for the troops, the War Minister chartered two 60 horse-power tugs of the type of the steamer *Chikishliar* of the Caspian Naval Flotilla from the "Caucasus and Mercury Company," and also hired four river barges for carrying stores on the Gulf of Micháelovsk. The terms upon which they were hired were 6,000 *roubles* per month for each steamer and 2,000 for each barge for the first six months. If they were retained beyond six months, the monthly payment for a steamer was to be 1,000 and for a barge 400 *roubles* a month. For towing barges from Astrakhan to Krásnovodsk and back, the "Caucasus and Mercury Company" were to receive 5,000 *roubles* per barge.† The Admiral-in-Chief detailed 2nd-Class Captain Makároff, A.D.C., as commander of the ships placed at the disposal of General Skobelev.‡

Whatever the result of the reconnaissance of the Gulf of Micháelovsk might be, it was evident that, without some arrangements for water-supply, it would never serve even as temporary auxiliary base, because at the so-called Micháelovsk post at the head of the gulf, which was first occupied by our troops in 1870, there is no drinkable water fit even for animals. When our troops first occupied a position in the Balkhán Hills, the Micháelovsk post was usually occupied by a company of infantry whose water was brought on Turkumán boats from Krásnovodsk. During the Expedition of 1880, when it was found necessary to station some coolies at Micháelovsk to unload the baggage of 250 men, besides the garrison, this method of supply became insufficient. If to this we add that this port was to be the initial point of the light field railway, with a large number of horses, and that afterwards the railway would be laid from the same place, entailing arrangements being made for watering locomotives; and if we remember that at Krásnovodsk there is no natural drinking water, but that all has to be obtained from condensers furnishing 4,050 gallons a day, a quantity hardly sufficient for its own garrison, let alone for the large number of troops concentrated there, it is evident that it would be absolutely indispensable to erect condensers at Micháelovsk. Without them the port would be untenable, and it was only with their assistance that the Gulf of Micháelovsk could be made a waterway towards Central Asia.

Condensers were ordered—

(1) From the Engineer Mlodetski, on the Normandy system, giving 4,000 gallons a day, and costing £2,560 sterling (24,516 *roubles* in credit notes at the current rate of exchange), delivered at Krásnovodsk from London

* The Minister of Marine to the War Minister, No. 30, dated 22nd March (3rd April) 1880.—*Author*.

† Contract, dated 17th (29th) April, between the "Caucasus and Mercury Company" and the Chief of the General Staff.—*Author*.

‡ The Minister of Marine to the War Minister, No. 2950, dated 18th (30th) March 1880.—*Author*.

and erected at the former place. The total cost of the condensers, including customs dues and a Lentz apparatus for burning naphtha residue, with a pump and reservoir for the naphtha, was 25,969 *roubles*.*

(2) From Nobel's works at St. Petersburg, giving 40,500 gallons of fresh water per diem, and costing 206,000 *roubles*, erected at Micháelovsk, along with two iron tanks, one of 270,000 gallons, the other of 6,500 gallons content. The total cost of the condensers and tanks, with their transport to the Gulf of Micháelovsk, was 224,835 *roubles*. The date of delivery was fixed for the 13th (25th) August.†

(3) From the "Caucasus and Mercury Company" at Baku, giving 10,800 gallons a day, costing 35,125 *roubles*. The apparatus was erected on boardship, so as to be able to move it about to any required place, while the others were on permanent foundations. The total cost of all together was 285,930 *roubles*.‡

The orders were divided among three companies, for the following reasons:—(1) From the "Caucasus and Mercury Company" was ordered the simplest and cheapest (23 *roubles* 62 *kopecks* per gallon per diem) apparatus, made of old steamers' boilers set up in a ship to meet the first demands for water, as the company expressed their readiness to deliver it in two months at the outside, and its transport from Baku would not take much time. (2) Mlodetski promised to furnish the most complete apparatus then in existence. This order, on account of the large relative cost of the apparatus (48 *roubles* 6 *kopecks* per gallon per diem), was given on a small scale only, so as to have a specimen of a condenser which enjoyed a great reputation in Europe, and which, if the trials were successful, would certainly be adopted in Russia. (3) Nobel's apparatus for condensing 40,500 gallons a day, with tanks holding 337,500 gallons of water, which were to be erected by the end of 1880, formed the greater part of the orders, and would provide a sufficient quantity of water for the troops. Although the cost (37 *roubles* 12 *kopecks* per gallon per diem) was greater than that of the apparatus of the "Caucasus and Mercury Company," Nobel's apparatus was much more complete, and, above all, the good name of Nobel's firm offered a guarantee that the order would be conscientiously executed.§

To establish a line of communication in Trans-Caspia, orders had been given that a line of light field railway on Décauville's system was to be laid from the Gulf of Micháelovsk for 66½ miles towards Kizil-Arvat. As the matter was urgent, it was decided, on the 29th March (10th April) that the plant required for this line should be obtained without asking for offers of contracts, and with other departures from the rules laid down for purchases by

* Cost of the condenser in London, 10,211 *roubles*; transport from London to Krásnovodsk and erection at the latter 14,305 *roubles*; Lentz apparatus 850 *roubles*; customs 603 *roubles*.—*Proceedings of the Committee for the Transport of Troops by Rail and Sea*, No. 79 of 1880. This apparatus was in working order on the 14th (26th) September 1880, and instead of 4,000 gallons gave 4,419 gallons of condensed water *per diem*.—Telegram from General Petrúsevitch to General Golovin, No. 5177, dated 21st September (3rd October) 1880.—*Author*.

† The first part of this apparatus, when tried at St. Petersburg on the 3rd (15th) June, gave 8,108 gallons per diem instead of 5,400, and this part, together with the 67,500 gallon tank, was sent off to Krásnovodsk in the middle of June. The rest of the apparatus (the 270,000 gallon tank and ½ of the condensers) was sent in July and on the 12th (24th) August. The first parts were erected at Micháelovsk at the end of September, the second lot in the middle of November, and the rest in the middle of January 1881.—*Proceedings of the Committee for the Transport of Troops by Rail and Sea*, No. 71 of 1880.—*Author*.

‡ 266,600 *roubles* were assigned for the purchase of condensers. Gurchin's Report to Skobelev, No. 85, dated 29th March (10th April) 1880.—*Author*.

§ *Proceedings of the Committee for the Transport of Troops by Rail and Sea*, No. 71 of 1880.—*Author*.

the Military Administration. Fifty miles were ordered from the Maltseff works and 16½ miles from Décauville's works in France. The foreign order was given so as to have a complete pattern of the railroad on Décauville's system, on the model of which rails might be made by Russian houses in case of successful results being obtained, and the light field railway adopted for military purposes generally.

As for rolling stock, 2 locomotives and 500 trucks were ordered abroad, and 100 trucks from Maltseff's works, as these were much cheaper in France than in Russia, and the finish of the French wagons is very superior to that of the Russian.

The Décauville railway (and the condensers) were ordered by the *Committee for the Transport of Troops by Rail and Sea*, as some of its members are specialists in railway matters, and all the arrangements for the delivery of the rails and rolling stock at Krásnovodsk had to be made by this Committee.

The total amount of the order given to the Maltseff works (50 miles of line, 60 points, spare parts, tools for repairs, and 100 trucks), including delivery of all the order at the Briansk station of the Orloff and Vitebsk railway, was 193,958 *roubles*, and that of the order given to Décauville's for 16½ miles of line, 2 locomotives, and 500 trucks, delivered to an official sent to Antwerp by the Military Administration, was 112,807 *roubles*. The transport of the whole to Krásnovodsk cost 119,792 *roubles*, thus giving a total of 456,558 *roubles*.* The order given abroad was to be executed by the 30th June (12th July); that to the Maltseff works by the 30th July (11th August). As a matter of fact, Décauville only completed his order by the 18th (30th) August and Maltseff by the 12th (24th) September.†

As the Décauville railway was to be worked by horses, orders were given to General Petrúsevitch to purchase in Mangishlák 1,000 Kirghiz horses of the breed used in artillery ammunition-wagons,‡ and harness for these horses was ordered in St. Petersburg. The horses were bought by Colonel Kolodaiyeff of the Artillery, and cost in all 63,663 *roubles*, the 650 sets of harness costing 7,953 *roubles*.

In view of the special climatic conditions of the country, General Annenkoff, in communication with the several Commanders in the Trans-Caspian Military District and the Turkistán and Orenburg Circles, worked out a pattern of harness for draught on the Décauville railway, and ordered 100 sets of this harness at 12 *roubles* 50 *kopecks* a set, which were sent off to Krásnovodsk in the beginning of May. On their being tried on the St. Petersburg tramways, several changes had to be made in the original pattern. Offers were called for for the supply of the remaining 550 sets, and Paramonoff, a St. Petersburg merchant, was given the contract at 11 *roubles* 78 *kopecks* a set. The harness was sent off from St. Petersburg in July.§

For the construction of the light railway, General Skobelev asked for a company of a railway battalion to be detached to Trans-Caspia. As the existing

* 500,000 *roubles* had been assigned to the General Staff for the purchase of the light field railway.—Gurchin to Skobelev, No. 85, dated 27th March (10th April) 1880.—*Author*.

† *Proceedings of the Committee for the Transport of the Troops by Rail and Sea*, Nos. 65, 66, and 67 of 1880.—*Author*.

‡ Of these horses part were to form a pack transport in the event of raids into the steppe to follow up robber bands, &c. General Skobelev asked for 500 pack-saddles for this purpose, out of those prepared in 1878 on the mobilisation of our troops on the western frontier and then lying in some of the western depôts. The saddles were sent off to Krásnovodsk, when navigation opened.—Letter from the General Staff to the Control Department, No. 33, dated 18th (30th) March 1880.—*Author*.

§ *Proceedings of the Committee for the Transport of Troops by Rail and Sea*, No. 70 of 1880.—*Author*.

four railway battalions, belonging to the sapper brigades, were at that time being reduced to the cadre establishment, and, in consequence of the discharge of the classes of 1874 and 1875 to the reserve, had actually less than 100 men each, instead of 1,000; and as the remaining men did not belong to the different classes (construction, working, administrative, &c.) in the proper proportions, on the 12th (24th) April the Emperor ordered the formation of the 1st Reserve Railway Battalion; but in the first instance only one company was to be enrolled,* which could afterwards, if required, be expanded to a four-company Railway Battalion. Its establishment was 5 officers, 11 officials,† and 262 men.‡

The company was formed by telling off for it—

- (a) men acquainted with special railway duties from the four railway battalions and the sapper battalions;
- (b) telegraphists from the Field-Telegraph Parks; and
- (c) non-combatants from the local troops of the Moscow Military District.

Engineers of railways and technical and telegraph officials were allowed in the proportion of one-half of the establishment for a four-company railway battalion, as the urgency of the work and the extremely unfavourable nature of the country would force the work on the line to be accomplished by comparatively small stretches in several places at a time, and it was necessary to have an increased technical staff to perform the duties of overseers and to increase the speedy and correct execution of the work.

In consequence of the exceptional circumstances under which the company would have to work in Trans-Caspia, the number of revolvers allowed to it was increased from the 36 actually allowed per company in railway battalions to 75, and instead of 60 cartridges 180 per rifle were allowed, and 30 instead of 10 per revolver.

The company was equipped with railway and engineer tools from the Ungen Park of railway stores, and those not thus furnished were purchased out of the sums allowed for the Expedition. The number of train horses was 13.

The company was formed at Moscow under the direction of the Chief of the Staff of the Moscow Military District, and, on its formation, was placed at the disposal of the Committee for the Transport of Troops by Rail and Sea. On the 14th (26th) May it left for Krásnovodsk, and arrived there on the 25th May (6th June),|| moving on the 23rd June (5th July) to the Gulf of Micháelovsk. With the company were sent telegraph stores and wire for a line 186½ miles long, weighing 618·56 cwt., from the Ungen Park and from the reserve stores prepared during the war in the east for the 1st Railway Battalion.

The Engineers Lessár, Yugovitch and Pogorailko, and their assistants, Lieutenant Adaduroff and the telegraph mechanic Bidermann, were sent in the beginning of April, ahead of the railway company to which they belonged, to make themselves acquainted with the country from the Gulf of Micháelovsk towards Kizil-Arvat, and to carry out the several

* Order of the Military Administration, 12th (24th) April 1880, No. 111.—*Author*.

† Seven engineers of railways, 2 technical officials, and 2 telegraph officials.—*Author*.

‡ Seven assistant station masters, 18 pointsmen, 4 writers, 12 telegraphists, 10 porters, 53 guards, 5 chief workmen for the line, 8 head workmen for repairs, 86 workmen for repairs, 5 smiths, 6 hammermen, 10 locksmiths, 6 carpenters, 4 engine drivers, 4 stokers, 12 combatant and 12 non-combatant soldiers.—*Author*.

§ *Proceedings of the Committee for the Transport of Troops by Rail and Sea*, No. 175, dated 2nd (14th) April 1880.—*Author*.

|| Order to the troops operating in Trans-Caspia, No. 96, dated 13th (25th) June 1880.—*Author*.

surveys required before constructing a railway or laying a telegraph line. These officials were also ordered to determine the place where the quays should be constructed,—whether opposite the Island of Rau, or at Cape Kuba-Sengir. The surveys for the railway line were to be carried out as far as the old bed of the Amu-Daria in three directions,—from the head of the Gulf of Micháelovsk, from a point near the Island of Rau, and from Krásnovodsk or Cape Kuba-Sengir. The place where the light field horse railway, to carry goods by Mulla-Kári towards Kizil-Arvat, was to start from was also to be determined; on the arrival of the first two miles of line they were at once to be laid down, and trials were to be made to ascertain if any faults existed in the Décauville railway, and how they could best be avoided. The question of water-supply, especially at the wells of Mulla Kári, was to be entered into, and it was to be decided whether aqueducts could be made from Tásh-Arvat-Kala to Mulla-Kári, Tágir, and even Aidin. The best means of erecting condensers of different systems was to be enquired into; and finally the best mode of working the tramway was to be reported upon, and a decision arrived at as to whether the line should be laid double or single.

In continuation of these instructions, General Skobelev directed the most careful attention of the engineers to the consequences of any one of them being captured by the enemy during the surveys, and he wrote: "Such an unfortunate occurrence would be magnified by the nomads into a great victory, and might have most fatal consequences for us. Therefore, I recommend the greatest care and strict observance of all counsels and orders given by the Commander of the Trans-Caspian Military District during all surveys. It must not be forgotten that the steppe is very deceitful, and one must be very experienced to know exactly when it is actually dangerous and when not, as in Asia circumstances change not daily, but hourly."*

Major Kronenberg, who was also despatched along with the engineers to Trans-Caspia, was ordered by General Annenkoff to work out on the spot all the questions mentioned in the general instructions given to Yugovitch, bearing directly on the future working of the Décauville railway, *viz.*, to determine, with Yugovitch, the number of trains *per diem* and the greatest distance allowed by local conditions between stations; to find out what would be the maximum rate of speed consistent with a regular working of the line; to work out a project for the organisation of the general traffic, prepared according to local circumstances; to draw up a time-table; to arrange the horse-service, *i.e.*, to state at what stations and to what extent dépôts of horses should be formed, and where these dépôts should be only used for the return journey; on the basis of the time-table to draw up a schedule for the service of horses, drivers, and guards; and, finally, to draw up a list of the *personnel* required for the traffic in general.†

In order to decide on the spot questions concerning the construction of the Décauville railway, and to exercise a general supervision over the surveys being carried out, General Skobelev requested the War Minister to send to Krásnovodsk Lieutenant-General Annenkoff, the President of the Committee for the Transport of Troops by Rail and Sea. The Emperor gave his consent to this; and as the total quantity of stores which would have to be transported to Trans-Caspia by the Volga and the Caspian amounted to 640,000 cwt.,

* Instructions to Engineer Yugovitch, approved by Skobelev at St. Petersburg on the 20th March (1st April) 1880.—*Author.*

† General Annenkoff to Major Kronenberg, No. 86, dated 23rd March (4th April) 1880.—*Author.*

the War Minister entrusted General Annenkoff with the organisation of the transport and with the distribution of the stores as they arrived. Port Captains were appointed to Krásnovodsk, Petrovsk, Baku, Tsarítsin, and Astrakhan.*

In accordance with the charter granted to the "Caucasus and Mercury Company" by the Emperor, the Military Administration was compelled to transport goods on the Caspian in the ships of this Company only † As during 1880 there would be a large amount of stores to be carried for the Expedition, the Chief of the General Staff concluded a contract on the 2nd (14th) May with the Directors, by which they bound themselves to furnish five of their 70 horse-power screw transport ships to carry troops and goods from Astrakhan, Petrovsk, Baku, and Lankorán to Krásnovodsk and Chikishliar, and also from Chikishliar to Krásnovodsk, Fort Alexandrovsk, Baku and Petrovsk, and further, in case of necessity, to carry part of the troops and stores requiring transport in the mail steamers. As in the time allowed it was impossible to carry on five steamers all the troops and stores required, the Company was forced to carry some of them on sailing ships. Two days were allowed for embarking and disembarking troops, and for every day in excess of this, Government were to pay 300 *roubles*; but in the transport of stores, three days were to be allowed for loading or unloading, Government paying the same sum for any days above three. If loading or unloading were prolonged in consequence of the state of the weather, or of any faults committed by the servants of the Company, or of delay occasioned by them, Government was to pay nothing extra. If, as was considered probable, a large quantity of railway stores had to be transported, and the Company found it necessary to hand over the transport of these stores to ships of other companies or proprietors; and if the payment which it made for these stores were less than that usually allowed to the Company by its charter, the payment for the transport of such stores was to be made at the rate actually paid, with the addition of the sums usually paid to the Company for transport to the quay and for loading. Of the total estimated cost of transport the Company were to receive 50 per cent. in advance, and the remaining 50 per cent. on quitittance receipts in proportion as the troops and stores were transported.‡ For the payment of advances and for first payments to the Directorate of the "Caucasus and Mercury Company," 400,000 *roubles* were placed at the disposal of the Controller-General.§

To the list of transport resources in Trans-Caspia road-locomotives must also be added. Two of these had been sent to the Caucasus in 1879, where they had been used with naphtha as fuel; but in their trials on soft ground they had been found of little use.

Our Military Agent in London, General Gorloff, who was at St. Petersburg in 1880, reported that an Englishman, Maisey, had invented a plan for using road-locomotives over sands and soft ground. In order to carry out experiments with this invention, Count Milutin, Naval A. D. C., and Lieutenant Kvapishevski were sent to London; but they reported that Maisey's apparatus was impracticable and unsuitable, and that it would not last well.||

As road-locomotives, however, would be of great service in transporting stores over hard ground for short distances in harbours,¶ in unloading

* Skobelev to the War Minister, No. 41, dated 13th (25th) March 1880, received 19th (31st) March 1880.—*Author*.

† Section 12 of the Charter of the "Caucasus and Mercury Company."—*Author*.

‡ Contract of 2nd (14th) May 1880.—*Author*.

§ Gurchin to Skobelev, No. 85, dated 29th March (10th April) 1880.—*Author*.

|| Report of the General Staff, No. 14, dated 23rd February (7th March) 1880.—*Author*.

¶ Report regarding the trial of road locomotives, Appendix No. 19.—*Author*.

cargoes at Micháelovsk and at Krásnovodsk, as locomotives in workshops, and for pumping purposes for the condensers, &c., three of them were sent to Trans-Caspia, two of which were already in Baku, and one from St. Petersburg. With them was sent a *personnel* of one officer and 14 men, wagons, and workshops. The maintenance of these three road-locomotives and their *personnel* was estimated to cost 3,750 *roubles* a year.*

Let us now consider the requirements of the Artillery and Engineer Departments, as calculated by General Skobelev at St. Petersburg.

Nowhere, may it be said, does artillery play so great a rôle as in Asiatic warfare, on account of the impression it produces on Eastern warriors. A number of guns is of such importance in Central Asia, that it is difficult to say whether it is best to have a large number of guns and few rounds per gun, or a few guns with a large number of rounds each. The first question that an Asiatic asks about an enemy's army is, how many guns has it?

In our Central Asian expeditions we find that the proportion of guns per 1,000 men was as follows:—Perovski's expedition against Khiva 4, and against Ak-Masjid (Ak-Mechet) 6; Zimmermann's against Pishpek and Tokmak, 9; Tchernaiyeff's against Tashkand in September 1864, 8, and in May 1865, 6; Romanovski's against Khojand, 10; Krijanovski's against Ura-Tapa, 7; Kaufmann's against Samarkand, 4½, and Zара-Bulák, 6; Markozoff's reconnaissances in Turkomania in 1872, 6; and during the campaign against Khiva, Golovacheff's column 5½, Verevkin's 7, and Markozoff's 7½. The forces sent into Trans-Caspia from the Caucasus were noted for the small proportion of guns they took with them. Thus, the Mangishlák column in 1873 had only 2½ guns per 1,000 men; Lomakin in 1878, 2 per 1,000; and our force at Gok-Tapa in 1879, 4 guns per 1,000 men.

Asiatics usually take into action all the artillery they possess, and their artillery generally forces them to make one battle decisive, as the idea of victory is closely bound up with that of preserving the guns. This is why Alam-Kul tied his gunners to their guns. Schamyl was lost directly he increased his artillery, as, being occupied with the preservation of his guns, he only evacuated his positions when the decisive attack was made; and the same may be said of Abd-el-Kadir. In the actual tactical instruction of the Bukhárán troops we find the following: "If the guns are fired, the face (of the battalion square) must open out a little and close again immediately after each discharge, to cover the gun, lest the enemy should fire upon it. Special care is to be taken of the guns, and it must be remembered that the strength of one gun is equal to that of a thousand soldiers."† This regard of Asiatics for guns caused Skobelev constantly to remark: "If I had the right, I would present the Tekkes with a few old guns."

General Skobelev, therefore, paid special attention to the equipment of his artillery, so as to surprise the enemy both by the number of his guns, their range, their power, and their different construction. "To conquer, you must know how to surprise," and "victories in Central Asia are bloodless in proportion to the strength of the artillery," were the mottoes of the Commander of the Expedition. With this object he asked that, besides the field guns already in Trans-Caspia, where there must, of course, be guns of long range, he

* *Proceedings of the Committee for Transport of Troops by Rail and Sea*, dated 5th (17th) April 1880, Nos. 22—123. Report of General Staff, to Caucasus General Staff, No. 1179, dated 28th April (10th May) 1884.—*Author*.

† *The Bukhárán Army in 1880*, Arendarenko, in *Voyenni Sbornik*, 1880.—*Author*.—(Translated into English.—W. E. G.)

might also have two batteries of light long-range guns,* one mountain battery, half a battery of heavy long range-guns, six 18-pr. mortars, naval machine-guns,† light mortars, and hand grenades. All this mass of artillery was not to exclude the old bronze and steel guns then in the district, and used for garrison service, or about to be rendered disposable by the re-armament of the field battery from being utilised; on the contrary, the Commander of the Expedition asked to have some old guns then lying in the Caucasus arsenals (4-prs. and 9-prs. and machine guns) to be sent to him to form mobilised batteries. In short, General Skobelev's idea was to have before Gok-Tapa not less than 10 to 12 guns per 1,000 men of his army, which for the Army of Operations would mean a total of 80 or 100 guns; and he succeeded in so doing.

Skobelev thought it necessary also to provide every *solnia* and squadron of the Army of Operations with four rocket-tubes each, which would render the cavalry completely independent—a result which would be of special importance at the period of our operations when we had occupied Kizil-Arvat and when the cavalry, concentrated (*e.g.*) at Khwāja-Kala, would, by its raids, render the presence of Tekkes in the *oasis* quite impossible. For the 8 *solnias* and squadrons of the Army of Operations, Skobelev asked for 32 rocket-troughs and 1,000 straps for carrying rockets to be sent to the east coast of the Caspian; the latter figure calculated upon the total number of troopers, each of whom was to carry a rocket.‡

During the Expedition of 1879 our troops met with a unique resistance under the walls of Dangil-Tapa, where the defenders stood behind their defences, which consisted of several thousand *kibitkas* placed touching one another. Judging by the experience of that year, artillery fire produced no impression on these *kibitkas*, and at the same time the storming of a fortress in which *kibitkas* are packed close against one another is a most difficult business. In all probability, therefore, the attack of Dangil-Tapa, or any other point in which the Akhāl-Tekkes had concentrated, would have to be undertaken as in a regular siege, *i.e.*, a gradual advance by trench-work would have to be made. In this case it would be a matter of the first importance to destroy the *kibitkas*; but to set them on fire by common shells was impossible, and other means would therefore have to be used. For this purpose pyr-oxyline rockets with a large charge of pyr-oxyline, obtained from the navy, or shells filled with kerosine, might be employed. The naval rockets are light, easily transported, safe, and have great destructive power, and noise and hissing would probably cause a panic amongst the enemy.§ Shells filled with kerosine might be used to set the *kibitkas* on fire, and General Skobelev, therefore, asked to be provided with 60 of them per gun for his half battery of heavy guns.

Finally, he wrote to the Commander of the Guard and Grenadier Artillery Brigade, General Zinovieff, who had commanded the battery at the taking of Jizák which made a breach in the wall,|| to ask for his advice as to the means of breaching the walls of Central Asian fortresses.¶

All the requests of General Skobelev, except those for light mortars and hand-grenades, which the artillery authorities declared to be obsolete, and for

* The guns here called "long-range" are simply the heavy and light field guns of steel introduced in 1877.—*J. M. G.*

† From the naval authorities.—*Author.*

‡ Skobelev to the Commander-in-Chief, No 59, dated 19th (31st) March 1880.—*Author.*

§ *Proceedings of the Staff of the Trans-Caspian Force*, No. 47 of 1880.—*Author.*

|| This is the only example of a practicable breach being made in all our Central Asian wars.—*Author.*

¶ Skobelev to Zinovieff, see Appendix No. 20.—*Author.*

kerosine shells* were granted. Smooth-bore 18-pr. mortars were also declared by these authorities to be obsolete, and the Commander of the Expedition was requested to dispense with them on account of the large number of long-range guns which had been supplied to him. But Skobelev, mindful of his experience in the Khivan campaign, when these pieces on the nights of the 28th and 29th May (9th and 10th June) 1873 had been of great use, and had obtained great results by their ricochet fire, insisted on having mortars.

The naval authorities sent two service and 48 instructional pyroxyline mines to Trans-Caspia, and General Zinoviev obligingly communicated to the Commander of the Expedition his advice as to the best way of breaching the walls of Central Asian fortresses.†

The establishment of the Engineer Park sketched out, at General Skobelev's request, by General Count Todleben, was as follows:—1,500 shovels, 400 pickaxes, 800 hoes, 600 axes, 100 15-lb. crowbars, 30 saws, 2 electric batteries with wire, Bickford's fuze, 5 sets of drills for boring in rocks, 5,415 lbs. (150 *puds*) of powder, and 722 lbs. (20 *puds*) of dynamite. Skobelev requested a park of this size to be got ready at Petrovsk by the 1st (13th) June.

Besides the above, he thought it necessary that every soldier of the Army of Operations should be provided with a Linnemann spade.‡

Although there was some talk at St. Petersburg of making provision for mining, Skobelev asked for no stores for this purpose, as he thought he could judge better afterwards whether they were required, on his making closer acquaintance with the enemy. As he considered fortifications of great importance, Skobelev asked the advice of Colonel Ts. Kuyu, Professor at the Engineer Academy, as to the species of field work which required but a small garrison and could at the same time contain large magazines. Kuyu answered Skobelev in a memorandum.

The telegraphic communication between Tiflis and Trans-Caspia was by two routes,—by the sea-cable between Baku and Krásnovodsk, and by the line from Chikishliar to Astrábad connected with the valley of the Atrak. To bring the advanced ports into communication with the base, and to facilitate communication between his detached forces, the Commander of the Expedition asked for 100 miles of line, with the necessary stores, to be sent (to construct a line between Krásnovodsk and Micháelovsk), and for a telegraph park to be supplied, so that communication might be established between Chát and the *oasis* by an insulated wire 133½ miles long.§ General Petrúsevitch was ordered to collect the 3,100 poles required for the permanent line immediately after his arrival in the country, and poles for the field telegraph were to be got ready under the orders of the Commander of the Expedition.

Besides this, according to the usual practice in a country where there are no telegraphs and where the army is constantly advancing, it was decided

* The artillery authorities did not consider it possible to supply half a heavy battery with incendiary shells filled with kerosine, because, on considering the results of the experiment made in 1879-80 near Sveaborg with shells of the kind suggested by General For-elles and filled with kerosine and benzine, it was found that these shells could not without great improvements be used in practice, and further experiments were, therefore, ordered to be made with incendiary shells.—Letter from the Central Artillery Committee, to the Caucasus Circle Artillery Administration, No. 22052, dated 9th (21st) July 1880.—*Author*.

† Letter from General Zinoviev, dated 8th (28th) May, No. 837, see Appendix No. 21.—*Author*.

‡ Skobelev to the Commander-in-Chief, No. 29, dated 10th (22nd) March 1880.—*Author*.

§ Skobelev to the Commander-in-Chief, Nos. 7 and 19, dated 4th (16th) and 9th (21st) March 1880.—*Author*.

to send to Trans-Caspia a detachment of heliographers,* such as had been used with success in the English wars with the Zulus, and especially in the campaign in Afghánistán.

Although heliographs had been known in our army since 1877, and experiments had been made with them in the Sappers' Camps of Instruction and on the Danube between Galatz and Brailoff, we had attached little importance to them, and they had soon been forgotten. But during the Anglo-Afghán war a most extensive use had been made of heliographs and of optical signals in general.† Thus, on the 20th November (2nd December) 1878 at the storming of the Peiwar-Kotal, when General Roberts led the turning column over the Spingawi-Kotal and had twice been repulsed by the Afgháns, his heliographic order to the troops detailed for the frontal attack proved the saviour of an almost lost battle. This signal was the sign for a general advance, and both columns advanced simultaneously to the attack, and the pass was taken. At the battle of Char-Asiáb, on the 24th September (6th October) 1879, which decided the fate of Kábul, General Roberts again was in command. In his report on this battle he relates how Captain Stratton communicated his orders throughout the entire day to the troops by means of optical signals, and how he rendered the greatest services. The heliograph was of special use on the 7th (19th) October 1879, when the English defended the Shutur-Gardan pass. On the 5th (17th) October an Anglo-Indian force of 21,400‡ men, which had occupied the pass under the command of Colonel Money, was surrounded by a force of 10,000 Mangals and Ghilzais. The 5th (17th) and 6th (18th) were passed in incessant attacks of the Afghans, and on the 7th (19th) the English and their pack-animals were deprived of their water-supply. Surrounded on all sides, Colonel Money for three days did not know what was going on in his rear at Ali-Kbel and the Peiwar-Kotal, or where General Roberts was, or what was happening at Kábul. Suddenly he noticed heliographic signals, which were being made to him from Shinkai, 10 miles off, and which informed him that General Gough was at that point and was advancing to relieve him. His desperate sortie from his entrenchments and Gough's movements in the rear of the Afgháns saved his force.

The head of the Asiatic section of the General Staff, Colonel Soboleff, who has made a special study of the Afghán war, was the first to direct our attention to the great benefits which the English derived through the use of heliographs. He pointed out, too, that they were not only useful, but indispensable for an army in places where no telegraphs exist, or where the enemy devoted much attention to destroying the telegraph wires.§

Our Military Agent in England, General Gorloff, drew up, therefore, by order of the War Minister, a project for the organisation of a heliographic service in Trans-Caspia on the following lines.

* Although the word "heliograph" means "to write by the sun," heliographs can also be used by moonlight.—*Author*.

† During the Zulu war, Colonel Pearson, when blockaded by 15,000 Zulus at Ekyowe, kept up heliographic communication for three months with Fort Tenedos, 26½ miles off. When the heliograph informed him that Lord Chelmsford was about to advance to his relief, he continued to flash to the latter news of the movements of the Zulus. Thus he informed Lord Chelmsford of the advance of a large body of Zulus to the Iniyetsana. After the battle of Gingilovo, Pearson heliographed that the further movement of the force would be unopposed.—*Der Kamerad*, No. 45 of 1880.—*Author*.

‡ The strength of Colonel Money's force seems slightly exaggerated; but so it is in the original, copied probably from Colonel Soboleff's veracious book.—*J. M. G.*

§ The electric field telegraph laid for 108 miles in the Khyber was cut 98 times, and 60 miles of wire were carried off.—Letter from General Gorloff to Skobelev, No. 54, dated London, 11th (23rd) June 1880.—*Author*.

Supposing that the greatest length of the line of heliographic communication required would be 400 miles, and the distance between stations 20 miles, the number of heliographs required for the expedition would be 20. The detachment was to be formed of 3 officers, who were practically acquainted with the working of the instrument, and 50 men, 2 per heliograph and 10 spare. The men were to be taken from the telegraph parks, and were to be acquainted with the Morse alphabet; they were at once to be put through a course of instruction with the heliographs in possession of the parks. Twenty Morse instruments were to be ordered.* On the basis of these proposals a heliographic detachment of 50 men† was formed from the 1st Sapper Brigade, and for their instruction in the use of heliographs there were detailed from the field telegraph parks—(1) Staff-Captain Maximovitch as commander of the detachment and chief of the signalling service with the force; (2) Lieutenant Paitnikoff; and (3) Sub-Lieutenant Stark as chiefs of stations.‡ The detachment left for Trans-Caspia on the 13th (25th) April for preliminary experiments with heliographs on the steppe at great distances, and arrived at Chikishliar on the 3rd (15th) May. It was provided with four heliographs which had belonged to the telegraph parks of the 1st Sapper Brigade, but afterwards Gorloff was ordered to obtain 45 Morse heliographs in London. Of these, 15 had 3-inch mirrors and cost £12 each, 15 had 5½-inch mirrors and cost £15 apiece, and the others, for use in forts, had 10-inch mirrors and cost £20 each. On their receipt from London, they were to be sent to Trans-Caspia in charge of an officer, and the necessary number of men, who were to remain attached on arrival to the heliographic detachment and be told off to the several heliographic stations.§

On the 15th (27th) March the Commander of the Trans-Caspian Military District, General Petrúsevitch, who was then at St. Petersburg, was ordered by the Commander of the Expedition to proceed to the east coast of the Caspian.

Besides obtaining Kirghiz horses in Mangishlák and telegraph poles for the line from Krásnovodsk to Micháelovsk as mentioned above, he was also commissioned to order 10,000 pairs of frames (*Kajáwas*) for camel pack-saddles, to obtain Kirghiz belts for 12,000 men, allowing a piece 42" x 42" per man, and 5,000 spare camel-saddles; to hire camel-drivers in Mangishlák, in the Astrakhan and Stavropol Governments, and in the Terek district, and also drivers to take 1,000 Kirghiz horses from Mangishlák to Krásnovodsk, and look after them when arrived there; to adopt such measures as were possible for the hire of coolies, as Skobelev would not allow soldiers to be employed in unloading ships, and to make arrangements for the storing of hay and barley for the horses, and hay and flour or barley for the camels at Fort Alexandrovsk and on their march to Krásnovodsk. As assistants to Petrúsevitch, Lieutenant-Colonel Y umudski and Captain Melnitski were sent from St. Petersburg; General Murávieff was also requested to place officers at his disposal from the troops under his command, and Skobelev wrote to the Second-in-Command of the Army of the Caucasus with a view to officials being detailed from that army. For his expenses, 700,000 *roubles* were handed over to Petrúsevitch,

* Gorloff to the General Staff, No. 13, dated 13th (25th) January 1880.—*Author*.

† The men were armed with a short Dragoon sword and a revolver.—*Author*.

‡ From the Assistant to the Inspector General of Engineers to the Chief of the General Staff, No. 757, dated 20th January (1st February) 1880.—*Author*.

§ From the Assistant to the Inspector General of Engineers to the Chief of the General Staff, dated 5th (17th) March 1880. The heliographs ordered only arrived at St. Petersburg on the 27th June (9th July) 1880.—*Author*.

of which 500,000 were for the purchase of camels, 100,000 for that of 1,000 horses, and 100,000 for the other articles.*

At the end of his instructions to Petrúsevitch, the Commander of the Expedition added that he would request that a Control Official should be sent to the district.

This question of a Control Department was considered by Skobelev as one of the first importance. He had several times declared, that unless a real Control Department, such as was established during the late war in the East, were sent to Trans-Caspia, he would not take command of the Expedition. He said: "These controllers must here (in Central Asia) be invested with much wider powers than in Europe, for there are no strategic secrets, although such must *de jure* be supposed to exist. I hope special attention will be paid to the subject of a Field Control Department, for I value very highly the presence of such with the force entrusted to me."

The Imperial Controller recognised the utility of forming a Field Control for Trans-Caspia, and on the 5th (17th) May asked for Imperial sanction to the formation of such a department for the force operating in Trans-Caspia on the basis of that laid down for a detached corps,† with a few exceptions, which will be duly mentioned.

As Chief Controller, the Commander of the Expedition asked for State-Councillor Cherevánski, then head of the Control Office in Turkistán, who had been for a long time at the head of the Control in our Central Asian possessions, and who was therefore better fitted than any one else to take charge of the department in the Akhál-Tekke Expedition. As General Skobelev intended also to keep up close relations with Turkistán with a view to obtaining different stores, &c., for his force from thence, Cherevánski, from his local knowledge, would be able to name the people with whom business was to be done, and to enter into contracts with them.

In his letter to the Imperial Controller, Secretary of State Solspi, the Commander of the Expedition thus spoke of Cherevánski: "Remembering Cherevánski's work in Turkistán, I propose him as Controller for the present expedition. He knows Central Asia; he knows all military arrangements for campaigns in that country, and all the varied conditions under which our troops have to operate. He is a man of ability, and should therefore be esteemed. A just and independent man, he does not hesitate to speak out his opinion, although it may be different from that of those superior to him. I attach special importance to this, as in Russia we have very few people who possess this citizenlike manliness. To show what sort of man he is, I will tell a story I once heard. When, ten years ago, a market and an exchange were built at Tashkand, he was among the few who objected to these institutions. He said that the merchants would be driven to the market by Cossacks, and that within three years the market buildings would be occupied by soldiers, and the exchange turned into a theatre within five or eight. It is my personal wish to have Cherevánski with the army."‡

The last question which had to be decided at St. Petersburg was the nomination of a Chief of the Staff for the Expedition. General Skobelev

* In Appendix No. 22 see Skobelev's memorandum to Petrúsevitch, No. 26, dated 10th (22nd) March 1880. 1,000,000 *roubles* (including 50,000 in cash) were placed at the disposal of the Commander-in-Chief to cover the different expenses incurred in preparing the expedition and in procuring means of transport.—From Gurchin to Skobelev, No. 85, dated 29th March (10th April) 1880.—*Author*.

† Sanctioned, 21st February (5th March) 1877.—*Author*.

‡ Letter of 22nd March (3rd April) 1880 from St. Petersburg.—*Author*.

the Government of Baku;* the 3rd and 4th Batteries of the 19th,† and the 1st Battery of the 21st,‡ Artillery Brigades (men and horses) from the other batteries of their brigades, and the 45th Divisional Ammunition Column from the 46th and 47th Columns, and the Tiflis Circle Artillery Dépôt§. As regards the 6th Battery, 21st Artillery Brigade, it had its full war establishment of men, with a 5th (Reserve) Division and the increased peace establishment of horses. The 4th Battery of the 20th Artillery Brigade, then in Trans-Caspia, had its war establishment of men and a 5th (Reserve) Division and horses for the war establishment, with 12 horsed ammunition-waggons. The 5th Division of the two last batteries was to be used by the Commander of the Expedition for mobilising unhorsed guns. The men sent to bring the troops up to strength were to be effective men, in a good state of health, of strong constitution, and perfectly fit for field service. Recruits of the last contingent were not to be selected. The Military Officials of the several Governments were to be responsible for the selection of the men to complete the regiment under orders for service, and all soldiers so transferred were to be medically inspected.||

No wheeled transport, Government or private, was to be taken with the troops, and riding horses were only to be taken by those entitled to them, according to the numbers laid down by regulation. It was further directed that all Company Commanders were to be mounted, and it was decided that all Officers, Medical Officers, Chaplains, and Officials belonging to the Force should be allowed to have horses, a deduction being made from their pay if forage were supplied. All baggage was to be carried on camels, which were to be handed over to the troops on their arrival in Trans-Caspia under the orders of the Temporary Commander of the Troops. An exception was made in favour of the Cavalry, who were to have 10 pack-horses in every squadron and *sotnia*; some special Artillery stores were also to be carried on pack-horses, and the wounded and sick were to be carried as mentioned below. This arrangement was made because of the want of good water, at least during the advance to the *Oasis*, and of the deficient forage,—characteristics of the theatre of war, which caused the number of horses with the Army to be reduced to the lowest figure. Thus the wheeled transport was obliged to be cut down as much as possible, otherwise the greater part of the stores carried on the carts would have had to consist of forage (and sometimes water also) for the horses drawing them.

The experience of 1879 fully confirmed what has been said above. The contractor Kargánoff had only undertaken to furnish 1,500 one-horse *arabas*, because the local authorities assured him that he would be able to obtain 15,000 *chetverts* of barley (85,500 bushels) on the Atrak. It was proposed that this barley should be stored at the various points on the route to be followed by the supplies, but instead of 85,500 bushels, Kargánoff found on the Atrak only 470 cwt., and in consequence the *arabas*, besides the 720 lbs. of Government stores required by contract, had to carry forage for the whole journey to Chát and back. As the journey from Chikishliar to Chát and

* The Staff of the Army of the Caucasus to the Commander of the 21st Division, 16th (28th) March 1880, No. 1150. The Apscheron Battalion required 265, the Daghistán 265, and the Shirván 270 rank and file.—*Author*.

† War strength of horses without reserve divisions and with four-horsed ammunition waggons.—*Author*.

‡ Four ammunition waggons for the four heavy guns.—*Author*.

§ In the 45th column there were 73 men. To bring it up to war strength, 336 men were required.—*Author*.

|| The Staff of the Army of the Caucasus to the Commander of the Local Troops of the Circle, No. 1147, dated 16th (28th) March 1880.—*Author*.

back takes 14 days by the road *via* Gudri and Báyat-Háji, not less than 180·5 lbs. of barley had to be carried on each *araba*, representing a total weight of 902·5 lbs., which was altogether impossible. General Lazareff therefore reduced the Government load to 613·7 lbs.

It is 133½ miles from Duz-Olum to Chikishliar, and the journey both ways takes 20 days; therefore 270·75 lbs. of forage had to be carried for each horse, thus reducing the possible load on an *araba* to 451·25 lbs. It was consequently useless to employ *arabas* up to Duz-Olum; the organisation of a service as far as Chát, as was actually done in 1879, offered, however, some advantages. The same may be said of military waggons, which were only of use to the troops between Chikishliar and Chát.*

On the line between the Gulf of Micháelovsk and Kizil-Arvat, wheeled transport was not to be thought of, as the first 140 miles of the road lies through sandhills, and between Aidin and Kazánjik there is a waterless stretch of 42½ miles.†

The equipment of the troops was the same as in 1879, except that, on the proposal of the Commander of the 19th Infantry Division, the troops of that division had per man, as an experiment, an extra blouse of sail cloth and one pair of half-boots, also of sail cloth, with leather soles and binding, besides the regulation two pairs of boots and one pair of soles. So as to be able to supply this equipment to the whole of the rest of the army if the experiment proved a success, the Intendence was directed to have a supply of sail cloth, leather, and both common and waxed thread sent to the east coast of the Caspian. Twenty thousand *roubles* were allowed for this purpose.‡ Fur-cloaks and a supply of uniforms and underclothing were also to be provided by the Intendence, all the uniform being quite new. The troops were to take with them their copper tea-pots and small kettles for cooking food for 50 men.§

The rations were the same as in 1879, except that the tea and sugar portions were increased, so that each man could have some three times a day; while from 1st (13th) May to 1st (13th) September, the ration of spirits or *vodka* was entirely discontinued, and issued only in exceptional circumstances, under the express order of the Temporary Commander of the Troops or in cases medically recommended. Till autumn, potatoes and pickled beetroot were to be issued, and from the 1st (13th) September, cabbages. As regards the supplies of cabbage prepared and delivered in Trans-Caspia, it was resolved to use them up in the hot weather.

The principal question,—that of the supply of fresh meat (at 1 lb. per man) per *diem*,—was so settled, that the troops at Krásnovodsk and at the Micháelovsk post were supplied as before by contract,|| while for those on the Chikishliar-Duz-Olum line the system of local contract was continued. In case of any movement of the troops on this line or of the concentration of troops at Micháelovsk, or of their movement from that place or from Krásnovodsk, the supply of meat was to be arranged for by General Skobelev

* A four-horsed waggon can carry 2,166 lbs., and its four horses require 34·15 lbs. barley daily. Between Chikishliar and Chát is 14 days' march both ways; therefore 1,407·9 lbs. of barley had to be carried.—*Author*.

† *Vide* Appendix No. 23 and Skobelev's communication to the Caucasus Staff, No. 135, dated 19th April (1st May), in which are given Skobelev's ideas as to the organisation of the regimental trains of the Troops operating in Trans-Caspia.—*Author*.

‡ The Intendence of the Army of the Caucasus to General Skobelev, 7th (19th) August 1880, No. 31165.—*Author*.

§ In Appendices Nos. 24 and 25, see Circulars of the Caucasus Staff, No. 936 of 19th April (1st May) 1880, regarding the equipment of the troops under orders for Trans-Caspia, and No. 1048 of the 1st (13th) May, relating to the transport and other requirements of those troops.—*Author*.

|| The normal garrison of Krásnovodsk which had to be fed by the Intendence was estimated at 6,000 men.—*Author*.

by purchase from the nomads or from the Khánate of Khiva. This decision, and the assurance with which Skobelev spoke of the success of his measures, did much to remove the principal obstacles to the supply of the troops. There were innumerable difficulties in the way of delivering cattle from the west to the east coast of the Caspian, and it was very difficult to march large herds of cattle along with the troops on account of the want of forage. It was, however, considered a necessary measure of precaution, in case unforeseen circumstances should prevent the arrival of the cattle in proper time, to form on the west coast, near Petrovsk, a depôt of live stock, which should give 3,840 cwt. of meat, to remain in charge of a contractor under the orders of the Intendance, and which could at any time be transported to Krásnovodsk either in whole or in part, and be placed at the disposal of the Temporary Commander of the Troops. Skobelev considered that 3,840 cwt. of meat, which represented a two-months' supply for 8,000 men, was amply sufficient for all contingencies. For the same purpose a reserve store of preserved meat and dried vegetables was also formed.

As regards the supply of bread and biscuits, it was decided to avoid issuing the latter as far as practicable, and to use them only in cases of necessity. General Skobelev took upon himself to arrange for the construction of bread-ovens whenever practicable. Nevertheless the amount of rations to be sent was so calculated that of the breadstuffs two-thirds were to be in the form of biscuits and one-third flour, but the latter proportion might be increased if required. It was decided "to give the men as much as they could eat, and not to waste regrets if a few stores got spoiled."

All preparations, both for supplies for the men and for forage, had already been made by the Intendance, by contract; and when Skobelev arrived in Tiflis, he found that the precise dates at which all objects were to be delivered had been fixed, and that arrangements for all other articles which came within the province of the Intendance (tents, hospital stores, spare clothing, linen, boots, covers for intrenching tools, &c.) had been made, and the date of delivery fixed by the Director of the Transport of Troops by Rail and Sea, Lieutenant-General Annenkoff.

To ensure all articles transported to the east coast of the Caspian being perfectly serviceable, of good quality, and fit for use, special Receiving Boards of Military and Control Officials had been appointed at the three bases (Astrakhan, Petrovsk, and Lankorán). These Boards examined everything that the contractors or other persons brought before them, and only such articles as were passed by them were sent to the east coast, where their care and storage rested on the responsibility of the authorities of the Force. Thus it might reasonably be hoped that the supply service, which is most complicated and which, under certain conditions of our local trade, has always some weak points, would, with proper arrangements, be worked out with the best hopes of success. It seemed, too, to be possible to regard the matter with equanimity.

The complete uncertainty in which General Skobelev found himself as to the approximate time at which the troops of the 19th Division, 19th Artillery Brigade, and Dragoons would be required by him in Trans-Caspia caused him to take measures for the supply of these troops for a certain time, up to four months, while concentrated at Petrovsk.* But as great difficulties

* It was only on the 28th May (9th June) that Skobelev telegraphed from Duz-Ölüm that the troops of the 19th Division, 19th Artillery Brigade, and the Dragoons would not be required till the beginning of September. Two battalions of the 21st Division [one had already been sent for on the 9th (21st) May] and the Heavy Battery of the 21st Brigade had, therefore, to be ready to sail for Trans-Caspia on receipt of orders.—*Author*.

would be experienced in the supply of such a mass of men and horses at Petrovsk, where their concentration in the hot weather, waiting for orders for several months, would also have bad results from a sanitary point of view, Skobelev agreed to their being allowed to remain in their own stations until notice was received from him that the time at which they would be required for operations was near.

In Trans-Caspia, besides the Artillery at Fort Alexandrovsk, there were the following field and mountain guns:—10 steel 4-pr. guns, with carriages, limbers and equipment complete and one ammunition-waggon per gun, 4 bronze muzzle-loading guns with carriages, limbers, and one ammunition-waggon each and stores complete, 4 bronze 3-pr. mountain guns, with carriages, pack ammunition-boxes and stores complete, and 8 guns of the 4th Battery of the 20th Artillery Brigade, in all 26 guns.

Of these guns, 4 steel and 4 mountain guns were horsed and formed the so-called Krásnovodsk Artillery; the others, except those of the 4th Battery 20th Brigade, were distributed as the armament of the various forts of the district.

The Military Council had, on the 30th June (12th) July 1879, decided that the Trans-Caspian Artillery was to be reduced, and that, instead of it, the 4th Battery of the 20th Brigade was to be left in Trans-Caspia and the 6th Battery 21st Brigade sent thither. General Tergukásoff considered that this force of Artillery was too weak, and therefore proposed that each battery should have two extra horsed guns attached to it, so that the strength would thus be increased by two divisions (one of 4-pr. bronze guns and one of 3-pr. mountain guns), and that ten 4-pr. breech-loading guns should be allowed for the defence of the fortified posts. This organisation was approved by the Commander-in-Chief of the Army of the Caucasus. The guns for the mobile mountain division were to be taken from those of the broken up half-battery of Trans-Caspian Mountain Artillery, then in the Artillery dépôt at Baku, while those of the field division were to be taken from the 4th Battery 20th Brigade, which was about to be armed with the new light field gun. As regards the ten guns for the defence of fortified posts, then in Trans-Caspia, six only were serviceable. But since none were available, it was impossible to issue steel guns to replace those considered unserviceable, so, to have guns of one pattern only in the armament of the forts, it was decided to replace all the steel guns by the six guns of the 4th Battery 20th Brigade, and to send four others from the Caucasus. All the steel guns, two mountain and the four 4-pr. bronze muzzle-loading guns, were to be returned into store at Baku.

Of the 10 guns, Tergukásoff proposed to place four at Krásnovodsk, and two each at Chikishliar, Chát, and Duz-Olum, and to ask for a company of the Gunib Fortress Artillery at full strength to serve them.

It was proposed to keep the field and mountain batteries in Trans-Caspia at full war strength in men and horses with a 5th (Reserve) Division; but the light battery was only to have 8 instead of 12 ammunition-waggons, while its Artillery and Intendance trains* were to be on the full war footing of horses.

While keeping both batteries on the war footing, in case of necessity, horsed mobile divisions of guns could easily be formed in any of the fortified points by using the men of the 5th (Reserve) Division.

* The "Artillery train" of a Russian battery means the spare gun carriages and the store waggons. The "Intendance train," the baggage, forage, and medical waggons.—J. M. G.

It was proposed to have Kirghiz horses for all batteries serving in Trans-Caspia, and therefore the Russian and Black Sea horses of the 4th Battery 20th Brigade and 6th Battery 21st Brigade were to be replaced for the time by Kirghiz animals. The Kirghiz horses of the Krásnovodsk Artillery were to be left at Chikishliar, to place the mountain battery on a war footing when it was brought over.

In consequence of the inefficiency of the fire of the 18-lb. mortar, and the very low bursting effect of its shell, General Sofiano* proposed to send none to Trans-Caspia, more especially as the light guns were well adapted for high-angle fire.

Besides the usual complement of ammunition carried by the troops and batteries, General Sofiano thought it necessary to keep up continually a reserve of three times this amount, and also another full complement of ammunition, for two batteries, two regiments of infantry, and two regiments of Cossacks on the peace establishment at Baku.

The experience of past expeditions in Trans-Caspia had shown the necessity of organising a special independent transport for Artillery stores; and General Sofiano thought it also necessary that all troops should have ammunition-waggons or other transport, which should follow immediately behind them and carry their reserve ammunition. He proposed, therefore, to have an Ammunition Park formed on the usual basis according to the regulation for the formation of divisional mobile and local parks, and therefore detailed the 45th Divisional Ammunition Column to proceed to Trans-Caspia. It was, moreover, proposed to provide this column, which consisted of 124 two-wheeled ammunition carts, with four-wheeled waggons, like all other parks of the army; artillery ammunition being carried in the new iron waggons, and small-arm ammunition in the old pattern wooden four-wheeled waggons. But as the latter were too heavy for steppe warfare, and the iron waggons, although lighter and more serviceable, were not fitted for carrying small-arm ammunition, Sofiano proposed to leave the two-wheeled carts with the 45th Ammunition Column. On the column being landed on the east coast of the Caspian, it would become the Divisional and Reserve Columns for the force, and would carry almost a full supply of artillery and small-arm ammunition for two batteries, two infantry regiments, and eight *sotnias* of Cossacks.† All spare stores for which there was no place elsewhere might be transported in the waggons of the column. The ammunition with which the Divisional Column was to fill up its waggons, as these latter were emptied by the troops, was to be placed in the various local dépôts nearest the theatre of operations which might be considered best by the Commander of the Force. If it were found impossible to horse all the ammunition waggons, the artillery and small-arm ammunition was to be carried in boxes prepared for pack transport.

Besides the ten 4-pr. bronze guns told off for the armament of the forts, and the 4 guns belonging to the mobile divisions, General Sofiano thought it necessary to send from Tiflis to the Baku dépôt, to replace casualties, four 4-pr. guns with ammunition waggons, two 3-pr. mountain guns with park ammunition boxes, a reserve of harness wheels, and other stores and 500 infantry, 100 Cossack, and 50 Dragoon rifles. He proposed to leave all the ten

* Commander of the Artillery of the Caucasus Military District.—*Author*.

† *Viz.*, in 22 carts 1,232 rounds for a light battery, *i.e.* 154 per gun (the regulation is 165 per gun), in 6 carts 768 rounds for a mountain battery, *i.e.* 96 per gun (regulation is 98), in 8 carts 68,160 cavalry cartridges for 8 *sotnias* of Cossacks (60 rounds per rifle), and in 88 carts 765,800 cartridges for the infantry Berdan rifle for 2 regiments (regulation is 917,760).—*Author*.

steel guns which had been returned from Trans-Caspia, four of which required arsenal repairs, at Tiflis.

As General Skobelev had been appointed Commander of the Expedition, however, the Commander of the Artillery of the Caucasus Military Circle suspended the transport of the 6 steel guns to the west coast of the Caspian, in case the Temporary Commander should want them to add to the armament of the forts, over and above the 10 bronze guns.

General Tergukásoff had expressed the opinion that it was necessary to establish a repairing arsenal in Trans-Caspia, as, with the then existing system of detaching battalions from different regiments to the district, the Armourers remained with the head-quarters of their regiment. General Sofiano thought it might be possible to limit the establishment of such an arsenal to the Artificers (Armourers, Wheelers, and their Assistants), and its stores, tools, *matériel*, and spare parts of arms to those which could be spared by the regiments whose battalions were serving in the country. To ensure the continuous working of this arsenal, a sufficient quantity of spare parts of rifles, &c., were to be sent from the Baku Section of the Tiflis Circle Artillery Depôt. The construction, situation, and supervision of the workshops were left to the care of the Officer Commanding the troops in Trans-Caspia.

Although the decision of the Military Council of the 30th June (12th July) 1879 had invested the Senior of the Battery Commanders in Trans-Caspia with the Command of the Artillery of the District, without giving him any Staff, it was evident that such a state of affairs could only exist while the sphere of operations was very limited.

When, therefore, this sphere of action became more extended, General Sofiano considered it necessary to appoint, with a few modifications,* a special Commander of the Artillery, with an administrative staff such as formerly existed in the Orenburg Military District.

A report on the new organisation of the artillery in Trans-Caspia, which had replaced the old and temporary formation, was drawn up in January 1880, when nothing was as yet definitely fixed for the proposed expedition, and was sent by the Commander-in-Chief to General Skobelev at St. Petersburg. Skobelev made the following remarks upon it:—"Artificers should be sent at once; the horses of the Artillery and Intendance trains are not to be taken; the Mountain Battery is to be transported without horses (except those of the officers); the 45th Column is to have 40 horsed ammunition waggons only instead of 124; the unhorsed waggons are all the same to be taken with the column as they will be required; to accompany the troops there will be pack ammunition boxes, in addition to the 40 horsed waggons.†

In the councils held at Tiflis by General Aide-de-Camp Prince Melikoff, the principal question concerned the Artillery; the smallest number of horses with which a battery could be worked was the only point on which the Commander of the Artillery did not agree with General Skobelev's wishes. The question principally concerned the horses of the Mountain (6th) Battery of the 21st Brigade. Skobelev proposed to equip the battery entirely with camels, and had therefore asked for the officers' horses only to be sent to Trans-Caspia. General Sofiano drew his attention to the fact that the battery had already its increased peace strength of horses, and that at Chukishliar there were a

* Report of the Caucasus Circle Artillery Administration to the Commander-in-Chief, No. 14, dated 20th January (1st February) 1880.—*Author*.

† Skobelev to Gurchin, dated 30th March (11th April) 1880, No. 114.—*Author*.

number of Kirghiz horses which had belonged to the disbanded Krásnovodsk Artillery, and proposed that the battery should not be brought up to full strength on the west coast, but should be transported with the horses it had with it and completed with the best of the Kirghiz horses on arrival, so that, if considered necessary by the Local Authorities, the battery might move without its Ammunition and Intendance transport horses. The matter was finally decided by the battery being ordered to start with all its gun-horses, three pack-horses for ammunition per gun (instead of seven), and, to enable the battery to move quicker when working with cavalry, horses for three (instead of five) days' supply of provisions and forage. The rest of the battery stores and baggage was to be carried on camels. The Kirghiz horses remaining on the east coast of the Caspian in 1879,—109 in number,—might of course have been used for the complete equipment of the battery, which might thus have been sent almost without horses; but this was not considered advisable, as the 4th Battery 20th Brigade also required some horses to bring it up to the strength. Thus the Mountain Battery marched with the horses it had, and was to receive 27 horses from the number at Chikishliar.* Sixty horses of this lot were to be sent to the 4th Battery 20th Brigade, which was to be brought up to its war strength in horses, but to have 8 only instead of 12 ammunition waggons. The remaining 22 horses were undisposed of, and were finally used to horse a Naval Battery. The reason for sending horses with the mountain battery was that, according to the reports received from Mangishlák, it would be very difficult to buy horses at favourable rates in spring or early summer—to such an extent had the severe winter and the want of forage enfeebled the Kirghiz horses. Skobelev had some difficulty in deciding about the bringing horses from the west coast, as he doubted their being able to keep up in a quick movement in case of necessity. No question was raised as to the equipment of the other three batteries.†

The batteries of the 19th Brigade were moved to Georgievsk in the beginning of April; there they were to be re-equipped and thence sent to the artillery range at Vladikavkaz to practise with the new guns. The new guns for the 4th Battery 20th Brigade were sent to Chikishliar in May. The 6th (Mountain) Battery 21st Artillery Brigade, which was to be shipped to the east coast of the Caspian in the beginning of April, could not be re-armed. As regards the 1st Battery 21st Brigade, although its new guns had not yet been received, it might be assumed that, if the Commander of the Expedition did not require its services till July, the re-armament could be effected in time. The half mortar battery had been already formed at Tiflis. It was prepared for transport on the platforms of ammunition-waggons (two mortars on each) with horse and camel harness, but no horses were furnished. It was sent off in charge of men of the Akháltsik Fortress Artillery under arrangement with an Artillery Contractor, and was expected to arrive at Baku by the 15th (27th) July.

* Total number of horses in the mountain battery, 85 (57 artillery and 28 train). There were also 15 horses for the formation of a Mobile Mountain Division.—Telegram from Sofiano to Skobelev, No. 7388, dated 3rd (15th) May 1880.—*Author*.

† Towards the end of May, the Commander-in-Chief, on the representation of the Commander of the 21st Artillery Brigade, decided "that as half of the 1st Battery of this Brigade had been armed with new heavy guns, which are much heavier than the old 9-prs., the trains should be increased by one pair per gun and ammunition waggon and two spare horses."—The Commander of the Artillery of the Caucasus Military District to Skobelev, dated 26th May (7th June 1880), No. 8843.—*Author*.

To satisfy the demands of the Commander of the Expedition, who asked to have 22 unhorsed guns placed at his disposal for the defence of the fortified points, besides the six serviceable and unhorsed guns already in Trans-Caspia,* eight Gatlings (from the Fortress of Alexandropol), two mountain guns out those which had been used for a horsed half-battery in Trans-Caspia in 1879, and the old guns of the re-armed 4th Battery 20th Brigade were placed at his disposal. With the spare Kirghiz horses remaining out of the lot of 109 at Chikishliar, it was proposed to the Commander of the Expedition either to increase the establishment of the Mountain Battery or the 4th Battery 20th Brigade, or to mobilise a division of the guns told off as armament for the forts, as he might consider necessary.†

The stores and *matériel* for four rocket batteries were either already at Petrovsk or were *en route* to Baku. As the Commander of the Expedition might perhaps consider it necessary that all the rockets should be carried by men, and that there should be more of them than usually taken (16 rockets per trough), an extra supply of straps and canes was stored in the Baku Artillery Dépôt, so as to suffice for the transport by men of 1,100 rockets.

The 45th Ammunition Column was all ready to start from Petrovsk with two-wheeled carts and double harness for horses and camels. If it were not required by the Commander of the Expedition till August, it was hoped that the two-wheeled carts would be replaced by new four-wheeled iron ammunition waggons.

The War Establishment of Officers (10 officers and 5 officials) had been told off for the park; and in case of necessity some of its officers could take charge of the Artillery dépôts, which would be formed at the various points on the east coast. There was to be no reserves of officers for the batteries.

General Sofiano also raised the question of providing a reserve of horses and men in case of losses in the batteries. This idea, though excellent in itself, especially as regards the supply of specially trained men, and the serious results to batteries of heavy losses in men and horses, could not be entertained by General Skobelev. The Commander-in-Chief of the Army of the Caucasus, therefore, resolved to form a reserve of this sort equal in strength to three reserve divisions, and to place it at Petrovsk‡; and he detailed for this purpose a squad of men from the Local Troops, giving at the same time directions that their special instruction in Field Artillery duties should at once be undertaken. As regards a reserve of horses, it was decided to wait until August, when General Skobelev would be better able to form an idea as to how many Kirghiz horses could be obtained—the more so because till that time it was not likely that any military operations involving heavy losses in horses would take place, and the small reserve of Kirghiz horses at Chikishliar would probably suffice for all needs at first.

It was decided that five complete supplies of artillery and small-arm ammunition should be provided for the Expedition—the first with the troops, the second in the Ammunition Column (in 40 ammunition waggons drawn by horses, the rest on camels), the third in a mobile park carried on camels, the fourth in local parks in sections at Krásnovodsk, Chikishliar, and Chát, and the fifth in a reserve park at Petrovsk. It was expected that all this supply of ammunition would be ready by June. Three complements were already

* The guns of the armament of Fort Alexandrovsk are not included in this number.—*Author*.

† As mentioned above, they were used to horse a Naval Battery.—*Author*.

‡ Reserve divisions were formed for the 1st Battery 21st, and the 3rd and 4th Batteries 19th, Artillery Brigade.—*Author*.

partly on the east coast of the Caspian, and partly *en route* thither; and it was proposed to concentrate the fourth and fifth complements at Petrovsk and Baku, whence they could be transported to the east coast on the demand of General Skobelev.

The reserve artillery stores and the reserve guns (15 in number), with three complements of ammunition for the same, were to be concentrated at Petrovsk and Baku, and were to be at the disposal of the Commander of the Expedition. The following arms were sent from the depôts of the Caucasus Military District to the Baku section of the Tiflis Circle Artillery depôt:—950 Infantry Berdans, 175 Cossack and 40 Dragoon rifles, 50 revolvers, 115 sword-bayonets, and 100 short Dragoon swords.

To avoid any considerable expenditure for the construction of artillery workshops, the repairs of all the artillery *matériel* of the batteries were ordered to be carried out in the workshops of the Gunib Fortress Artillery at Petrovsk, under the personal superintendence of its Commander.* To keep the *matériel* of the 45th Divisional Ammunition Column and the half Mortar Battery in repair, a sum of 8,000 *roubles* was assigned for the construction of workshops and for the purchase of packing materials.

No deficiency of supplies was therefore to be feared, but rather a certain degree of superfluity, both of supplies and military stores, which might possibly cramp the action of the Commander of the Expedition, as on the east coast the facilities for storing were not great, and extensive measures had to be taken to preserve the stores. Skobelev was quite aware of this, and asked to be allowed to send for stores from the west coast as he required them.†

The necessities for Garrison Artillery service in the fortified posts and the depôts carried the question of putting this service, which hitherto had been performed in Trans-Caspia by the Gunib Fortress Artillery, on a more satisfactory footing. There were 125 men of this corps in the district employed as detachments for the garrison guns and in charge of stores. The Commander-in-Chief of the Army of the Caucasus had already pointed out the necessity of forming a fourth company for this body of men, which should be permanently detached to Trans-Caspia. No orders had as yet, however, been given on the subject; and as the requirements of the district had now become greater, the whole of the 3rd Company was sent instead.

An examination of the hospital and medical services led to the general idea that as there were already in the district two hospitals at Chât and Chikishliar

* Sofiano to Skobelev, dated 23rd and 24th May (4th and 5th June) 1880, No. 8675.—*Author*.

† See Appendices—No. 26, Return of Artillery stores directed to be despatched to the Trans-Caspian Province for the use of the troops of the Expeditionary Force (these stores were comprised in three consignments); No. 27, Return of the *matériel* entered in the books of the Artillery Store-Depôts in Trans-Caspia or in store and awaiting despatch in the Baku Section of the Tiflis Circle Artillery Store Depôt; No. 28, Return of the firearms, &c., forming one consignment, awaiting despatch from the Tiflis Circle Artillery Store Depôt; No. 29, Return of the firearms, &c., with the troops of the Flying Column and in the Park of the Trans-Caspian Expeditionary Force.

Not only the supplies mentioned in these returns, but others in the Petrovsk and Baku Depôts, were completely at Skobelev's disposal.—General Sofiano to Skobelev, dated 19th (31st) May 1880, No. 8376. Afterwards, in August, by order of the War Minister, there were delivered at Petrovsk 3,793 boxes of Infantry and 572 of Cavalry ammunition with wax wads for experimental purposes during the Expedition. The reason of this was that the Turkistân Artillery Administration had reported that the cartridges of the pattern in use (with tallow grease wads) were only good for the usual temperature of European Russia, and were unsatisfactory in Central Asia. With the intense heat of Central Asia these tallow wads melt; in six months the cartridges become very uncertain in their action, and in 2 or 3 years' time they are perfectly useless. It was therefore considered necessary to provide troops operating in Central Asia with cartridges with hardened wads of yellow wax.—Sofiano to Skobelev, dated 17th (29th) July 1880, No. 11979: The Central Artillery Committee to the Caucasus Circle Artillery Administration, dated 27th June (9th July) 1880, No. 20681.—*Author*.

(with 200 beds each and stores for 200 beds in addition), and a hospital with 100 beds at Krásnovodsk, if an extra hospital of 200 beds were sent to Krásnovodsk or Micháelovsk, and two others of the same size were placed at such places as might be deemed fit, these services would be completely assured until the sick could be reshipped to the west coast. As it was desirable to keep the sick as short a time as possible in the hospitals in Trans-Caspia, where the conditions were unfavourable for their recovery, it was decided so to organise all these hospitals, except the base hospitals at Chikishliar and Krásnovodsk or Micháelovsk, that they might be divided into hospitals of 100 beds each, and thus increase the number of points at which the sick could be treated as they were being taken to the rear.

In addition to the above-mentioned hospitals, mobile field hospitals of 40 beds each were ordered to be formed by the 19th and 21st Divisions, and all measures were taken to ensure every attention being afforded to the sick and wounded; it was therefore hoped that the medical service, both as regards sufficiency of means and perfection of organisation, would be conducted under most favourable conditions. Skobeleff said that he considered that the abundance of means and the excellent organisation were all that he could wish, and that it even seemed to him to be luxurious.

Two main questions had to be settled,—those of the hospital supplies, and the transport of the sick. The former question was of special importance to the hospitals situated at some distance from the sea. The supply of those at Chikishliar, Krásnovodsk, and Micháelovsk offered no difficulties, as the articles could be obtained by contract; and the same might be said of Chát. But in the interior of the country the contractor would find his operations more difficult, was more dependent upon chance, and was in an incomparably worse position than Government, in whose hands were concentrated all the resources of the country, and all the labour of the troops. These difficulties would cause him and the authorities under him to make demands for higher pay, and at the same time to lay claim to a number of illegal privileges, which were often to the detriment of the troops; and even then they would frequently not be in a position to fulfil their obligations. The contract system of hospital supply was, therefore, far from establishing its superiority over the victualling of the troops generally. The Intendance had in all cases to furnish supplies for the army; those which could be kept for some time gave it no difficulty, and no contractor could deliver articles which would not keep; and these were precisely of the kind required for hospital diet, such as milk, fowls, and food products.

The list of hospital stores had, therefore, to be drawn up with due regard to all these conditions, and was so framed that everything which could be delivered in Trans-Caspia and could keep in it was included, while all articles which were incompatible with local climatic conditions were eliminated and replaced by such other products as would serve as substitutes for them, and would stand transport and keeping for a more or less prolonged period. All articles were, therefore, prepared by the Intendance and delivered, like other supplies for the force, at the dépôts, whence they were distributed to the hospitals, just as provisions were forwarded to troops stationed at some distance from the principal dépôts. The service could, in this way, be completely assured and its working simplified.

On this basis the Inspector General of the Medical Department was ordered to draw up tables of hospital diet, and these were submitted by him in the end of May.

The Committee assembled to examine his proposals thought it requisite to make the following changes in the normal hospital diet :—

1. As it was difficult to prepare and deliver fresh bread, especially during marches and at the standing hospitals at points distant from the coast, it became necessary to have a supply of rusks made from white bread to be issued in case of necessity at the rate of $1\frac{3}{4}$ lbs. of rusks for 2 lbs. of bread, rusks being preferable to biscuits, which are with difficulty softened in water, whilst rusks are more easily prepared. The use of rusks made from white bread had also this advantage, *viz.*, that the use of ordinary soldiers' biscuits made of black flour, an article of diet hurtful to the sick, could thus be avoided.

2. It was considered useful to have sago, in order to vary the food, and to afford the necessary supply of starch in the same, and to act as an efficient diet in stomach diseases.

3. As meat is usually bad in Trans-Caspia, and gives little nourishing matter when converted into soup, it was considered necessary to have a supply of cakes of preserved soup, which could be added to the usual meat ration when required.

4. Swiss preserved milk was added to the list, as ordinary milk could not be supplied.

5. To season and improve the taste of the food, there were supplied—fresh preserved vegetables, horse-radish, dried fruits, dried aromatic herbs, tarragon marjoram, Martin's extract of currants, and fruit acid; and for officers, in addition, coffee, cocoa and chocolate.

6. Finally, for table use, fowls, cucumbers, fresh fruit, preserved meats and hams, which were to be used in places where there would be no difficulty in obtaining them.

As regards the material portion of the catalogue, the Committee were guided by the same rules, and therefore vermouth and lime juice were added as good preventatives of scurvy.*

For the transport of the sick it was decided that every corps, ambulance, and hospital should be provided with carts, each to carry two sick or wounded.† These were distributed as follows :—3 per battalion, 2 per battery, 1 per *sofnia*, 4 for the Division of Dragoons, 5 for the Ammunition Column, 20 for the Divisional Ambulance, and 62 for the three Temporary Field Hospitals—in all 176. Besides these, 24 carts were at the disposal of the Temporary Commander of the Troops, making a total of 200.‡ The carts told off to the hospitals were to be used exclusively for the carriage of the sick. The construction of the carts was undertaken by the Caucasus Artillery Administration, and a sum of 36,800 *roubles* was set apart for the purpose from the funds assigned for the Expedition.§

General Skobelev, who so greatly feared increasing the number of horses that he at one time proposed that the Artillery Sergeants should be

* Report of the Inspector of the Caucasus Medical Department to the Commander-in-Chief of the Caucasus Army, No. 7565, dated 27th May (8th June) 1880: Return of stores and table requirements in the Hospitals of Trans-Caspia, see Appendix No. 30.—*Author*.

† During the Expedition of 1879 the troops had with them ambulance waggons with 4 horses each, and these could carry 4 severely wounded men. Besides the importance of having a smaller number of horses in the district, it was of advantage to spare the regular hospital transport and to replace it by carts.—*Author*.

‡ The Staff of the Caucasus Army to the Commander of the Expedition, dated 29th July (10th August) 1880, No. 1959.—*Author*.

§ The Intendence of the Caucasus Army to Skobelev, dated 7th (19th) August 1880, No. 31165.—*Author*.

dismounted, requested that the question of whether the carts should be drawn by camels or horses should not be settled till he had made himself acquainted with the country.

The hospitals were all to be supplied with *kibitkas*, except those at Krásnovodsk (or Micháelovsk), which were to be accommodated in huts,—* for the construction of which 115,000 *roubles* were assigned.†

The reserve of medicines in Trans-Caspia was either to be divided into two or kept intact, according to the orders of the Commander of the Expedition. Out of it, a mobile medicine depôt was to be formed, transport for which was to be found by the general transport of the force. The medicines of the divisional ambulances were carried on pack-animals in specially designed medicine chests ordered by the Inspector General.

With regard to the Engineers, it was decided to form an Engineer Staff for the Force, and Lieutenant-Colonel Rutkovski was nominated Commanding Engineer. The Engineer Park was formed at Tiflis, and was to be sent over to Trans-Caspia in June. It consisted of—1,500 shovels, 596 hoes, 119 spades, 220 pickaxes, 50 15-lb. crowbars, 30 axes, and a field forge with the usual tools.‡ All the troops were to be provided with Linnemann spades, which were to be sent to Petrovsk by June.

The establishments of the Staff and Departments of the Force, which had been drawn up by the Commander of the Expedition at St. Petersburg on a somewhat liberal scale, were considerably reduced by him at Tiflis, and these were sanctioned by the Commander-in-Chief.§ Although, judging by the number of the troops and the character of the proposed operations, a small Staff would have sufficed for all needs, still the preparations for the Expedition were being made on such a large scale and in so complicated a manner, and so many movements of troops had to be made, so many arrangements carried out, and so much supervision had to be exercised over the various operations which were being conducted over a large extent of country, that its mere numbers must not alone be considered. The only part of the army for which a Staff was not provided was the transport; but this the Commander of the Expedition proposed to organise in Trans-Caspia.||

In conclusion, it must be added that the Intendance of the Army of the Caucasus was ordered to have always in hand a supply of 1,000,000 *roubles* for the use of the Expedition, and that the balance of the sums assigned for the Expedition of 1879 (1,455,536 *roubles*) was to be added to those assigned for that of 1880. Thus the total sum assigned for the expenses of the Expedition of 1880 was 8,662,536 *roubles*,¶ of which $\frac{1}{20}$ was to be in ready-money, principally to meet extraordinary expenditure.** The

* Huts had been made for the Chikishliar hospital in 1879.—*Author*.

† The Intendance of the Caucasus Army to the Commander of the Expedition, 7th (19th) August 1880, No. 31165.—*Author*.

‡ See Appendices Nos. 31, 32, and 33, containing two Returns prepared at Tiflis of the tools with the Engineer Park, and one Return of the Electrical Apparata furnished by the Caucasus Sapper Brigade and of the stores of the Technical Galvanic Laboratory with the Engineer Park of the Akhál-Tekke Detachment.—*Author*.

§ Appendix No. 34, Return of the Temporary Military Administration and of the Trans-Caspian establishments.—*Author*.

|| General Pavloff to the Commander-in-Chief, dated 1st (13th) May 1880; Sofiano to Skobelev, dated 16th (28th) May 1882; Sofiano to the Commander-in-Chief, dated 18th (30th) March 1880, No. 45.—*Author*.

¶ In Appendix No. 35, see Budget of the Expedition.—*Author*.

** General Aide-de-Camp Prince Melikoff to Skobelev, No. 863, dated 9th (21st) April 1880.—*Author*.

disbursements of the first six months as sanctioned by the Emperor were as follows :—

						Roubles.
In May	...	...	...	...	...	600,000
„ June	...	...	...	...	...	609,000
„ July	...	...	...	...	...	637,000
„ August	...	...	...	...	...	259,000
„ September	...	...	...	...	...	826,000
„ October	...	...	...	...	...	110,000
Total						3,041,000*

The Minister of Finance decided that, in extraordinary cases, when there was not sufficient time to apply for money through the usual channels, issues of money were to be made to the troops on the receipt of a telegram from the Central Treasury, stating that the money had been paid to it by the Intendance authorities, and such a telegram was to be accepted by the persons receiving the money as a credit note.†

By the 20th April (2nd May) Skobelev had finished his business at Tiflis. The floods in the rivers had made the road through the Baku district almost impassable, while thick snowdrifts had formed on the Georgian Military Road. Skobelev therefore remained at Tiflis till the 25th April (7th May), waiting for the removal of the drifts on the latter.

He had great difficulty in crossing the main range of the Caucasus, over which it was necessary in places to go on foot, but succeeded in reaching Petrovsk on the evening of the 29th April (11th May), having inspected on the same day at Chir-Yurt the 1st Battalion of the Daghestan Regiment, which had been told off for the Expedition. At Petrovsk, the Commander of the Expedition found that General Annenkoff, who had charge of the transport arrangements for the troops, had already arrived from St. Petersburg, and learned from him that the transport of stores to the east coast of the Caspian had already begun, and that in April there had been despatched by ships of the "Caucasus and Mercury Company"—from Petrovsk to Krásnovodsk, 8,550 bushels of flour and 4,218 bushels of biscuit; from Chikishliar to Krásnovodsk, 4,160 cwt. of ship's provisions, 5,632 cwt. of biscuit, and 15,561 bushels of oats; and from Chikishliar to Alexandrovsk, 20,748 bushels of oats. Advances had also been received that 17,100 bushels of biscuit, 11,400 bushels of flour, and 5,700 bushels of groats, weighing in all 11,840 cwt., would be received on the 30th April (12th May) and 1st (13th) May for transport from Petrovsk to Krásnovodsk. Of the 4,800 cwt. of hay ordered to be sent to Fort Alexandrovsk, only 480 cwt. had been sent off by the 29th April (11th May); it was hoped that 480 cwt. more could be sent off by the 8th (20th) May, 1,600 cwt. by the 15th (27th), and 2,240 cwt. by the 25th May (6th June).‡

To ensure unity in the arrangements for the transport of troops and stores on the Caspian, orders were issued by the General Staff, that

* Chief of the Staff to the Staff of the Caucasus Circle, No. 200, dated 11th (23rd June) 1880.—*Author*.

† Staff of the Caucasus Circle to the Commander of the Expedition, dated 5th (17th) June 1880, No. 1517; and Circular of the Finance Minister, No. 62, dated 15th (27th) August 1877.—*Author*.

‡ Annenkoff to Skobelev, No. 996, dated 6th (18th) April 1880.—Skobelev to Pavloff from Petrovsk, dated 29th April (11th May) 1880. In fact, all the loading of hay and other stores was finished at Petrovsk by the end of May.—Annenkoff's telegram from Petrovsk, dated 28th May (7th June).—*Author*.

finishing the purchase of camels from the 15th (27th) May to the 1st (13th) June,* at the same time expressing his conviction that by the 23rd June (5th July) 3,800 could be delivered at Krásnovodsk. It might also now be considered certain that the number of Kirghiz horses required for the Décauville railway, &c., would also be furnished in time. Navrotski, however, thought that the necessary number of camel-drivers could not be obtained, so the Commander of the Expedition telegraphed to Colonel Ivánoff at Orenburg to hire the full number of drivers required for 6,000 camels, allowing 1 driver to 6 camels.

According to the orders given at St. Petersburg to send trustworthy men to examine the roads leading to the sands of Sám and ascertain whether they were practicable for camel columns, the Kirghiz Dorman was sent out, and he reported that the route over the Ust-Yurt was perfectly practicable for camels. According to him, the water of the wells of Ille-Khwája alone was very far below the surface (140 feet), that not more than 500 camels could be watered at them in one day, moreover that new wells could not be sunk in the vicinity. The water of the other wells was not more than 84 feet below the surface, and was so deep that at least 1,000 camels could be watered at them daily.

Besides the route reconnoitred by Dorman, the Kirghiz said that there was another and better route. Colonel Navrotski therefore sent Dorman to the Lower Emba fort to Colonel Ivánoff, and ordered him to reconnoitre this other road and report to Colonel Ivánoff, so that the latter might decide by which route to send the camels.†

On the 4th (16th) May, the Commander of the Expedition arrived at Krásnovodsk. Up to the date of his arrival the Micháelovsk post had been occupied since the 23rd April (5th May) by a company of the Krásnovodsk Local Battalion (150 bayonets) and a detachment of 1 officer and 25 Cossacks of the 6th *Solnia*, Laba Cossack Regiment.‡ The Gulf of Micháelovsk had been reconnoitred and beacons set up in it, and the Engineer Yugovitch had finished his surveys for the construction of a railway between the head of the Gulf of Micháelovsk and the wells of Mulla-Kári. General Petrúsevitch had arrived on the 17th (29th) April at Krásnovodsk,§ and had organized a weekly postal service of *Jigits* to keep up communication between Krásnovodsk and Fort Alexandrovsk.|| and got ready 312 oaken casks with iron hoops to carry water for the company sent to Micháelovsk, and 260 sail-cloth buckets for the Kirghiz horses destined to work the Décauville railway, and which were to arrive in Krásnovodsk in the middle of July.¶ He had also prepared

* Navrotski to Petersburg, No. 639, dated 26th May (7th June) 1880.—*Author*.

† Transported in the barge *Nirok* and the steamer *Chikishliar*. The company and the Cossacks were on their departure provided with a double supply of cartridges, 100 water casks, 8 days' supply of biscuits, ship's provisions for a month, fresh bread and meat for 5 days, and oats and hay for 15 days. With the barge were also sent two Turkumán boats, which were placed at the disposal of the commander of the post, Staff-Captain Zeifert, and which were to carry bread and water from Krásnovodsk.—General Orders, Trans-Caspian District, Nos. 28, 30 and 32, 18th (30th), 20th and 21st April (2nd and 3rd May).—*Author*.

§ General Orders, Trans-Caspian District, No. 27.—*Author*.

|| Report from Petrúsevitch to Skobeleff, No. 1166, 22nd April (4th May) 1880. This arrangement cost 3,260 *roubles* up to 1st (13th) January 1881.—Telegram from Lieutenant-Colonel Popoff, No. 5858, 17th (29th) December 1880. The messengers were sent from Fort Alexandrovsk and Krásnovodsk every Saturday, and arrived simultaneously at the wells of Temir-Bába. There they exchanged post-bags and returned to the places they had started from. Each messenger received 40 *roubles* for the journey.—Petrúsevitch's report, 14th (26th) June 1880, No. 2011.—*Author*.

¶ Petrúsevitch's Report, 13th (25th) May 1880, No. 1508. Each cask cost 3½ *roubles*; the buckets, 70 at 1 *ruble* each, and 190 at 70 *kopecks* each.—*Author*.

3,000 telegraph poles for the line from Krásnovodsk to Micháelovsk, and had ordered 640 cwt. of ropes at Astrakhan, 2,000 camel-saddles at Baku,* bricks for 30 company baking ovens, 50 Rotcheff machines for cooking food with naphtha refuse, 6 vats for storing naphtha at Krásnovodsk and Micháelovsk, each holding 960 cwt. of naphtha,† 6 pumps for raising water from wells, coal and charcoal for the workshops of the Décauville railway, and, at Shemakha, 15,000 frames (*kajávas*) for camel pack-saddles. He had also made arrangements for the construction of quays in the Gulf of Micháelovsk,—had sent an officer to Baku to hire drivers for the waggons of the light field railway, and had concluded a contract with the merchant Debur to deliver naphtha refuse at Krásnovodsk for the use of the force at the rate of 24 *kopecks* per *pud* (35.1 lbs.) if 50,000 *puds* were taken, 22 *kopecks* if 100,000, and 20 *kopecks* if 150,000 *puds* were required.‡

The extensive operation of surveying the Gulf of Micháelovsk had been performed by Lieutenant-Colonel Durneff of the Flotilla Corps, who had been placed at General Petrúsevitch's disposal by the naval authorities at the beginning of April. His first operations had been to take longitudinal measurements of the navigable channel while sailing along in a steamer, and in the most dangerous places (at narrows, curves between islands and shoals, and at the edges of the channel) had made cross-sections. This survey showed that both the direction and the depth of the navigable channel had not changed since the survey of 1874. The manner in which the steam-barge *Procéorni* towed another barge through the channel showed that there would be no difficulty in turning long barges in the narrows between the islands.

To tow barges there were available the Government steamer *Chikishliar* and the hired steamer *Beketoff*. Their dimensions were, length 105 feet, breadth 23 feet, draught when empty $2\frac{3}{4}$ feet, when laden $3\frac{1}{2}$ feet. The river barges 280 feet long, which were intended to carry stores, drew, with their maximum cargo of 20,800 cwt., 4 feet 9 inches.

On the 5th (17th) May the Commander of the Expedition visited Micháelovsk, with several members of his staff, Naval Aide-de-Camp Makároff, and the Committee which had been specially detailed to examine the Gulf. He sailed as far as the Island of Rau on the steamer *Grand Duke Constantine* and then changed to the steamer *Chikishliar*, on which he proceeded to the Micháelovsk Post.

The navigable channel proved much easier than could have been expected from an examination of the chart. From the Island of Rau to that of Erkegli, a distance of 18 miles, the channel was fairly broad and not very tortuous. Up to this point, a steamer could fairly broad barges, and the least depth at any one point was 8 feet. The sandbanks could be easily recognised by the colour of the water, which assumed a yellowish tinge over them, and the bottom was everywhere favourable for anchoring.

* Instead of the 5,000 ordered by Skobelev. In thus diminishing the number Petrúsevitch was guided by the principle that one spare saddle per 10 camel is sufficient, as after a few months' work half the camels will have died, and the saddles of a large number of the animals lost can be used instead of those which have become unserviceable. General Murávieff had besides 300 spare saddles. Half of the saddles ordered by Petrúsevitch were for two-humped and half for one-humped camels. The date of delivery was 1st (13th) August.—Petrúsevitch's Report, 12th (24th)

The depth, which was measured the whole way with a sounding-rod, agreed throughout with that shown on the chart. During the passage up the gulf, there was a fresh south-easterly breeze, which soon made the water tolerably rough, especially over the shoals which from time to time showed themselves between the waves. On entering the narrow part, the water became somewhat calmer, but even at the shallowest place, at the northern extremity of the Island of Mengli, its depth was $6\frac{1}{2}$ feet, or only $1\frac{1}{2}$ less than that shown on the chart.

At the Island of Erkegli the curve was tolerably sharp and the navigable channel narrow; but still it was evident that a steamer with a long barge in tow could pass it easily, and it would only be difficult when the wind was very strong. In any case, as the bottom was soft and the place was completely protected from the waves, the grounding of a barge upon the sand-banks would be neither dangerous for it nor for its cargo. All the other curves up to the head of the gulf were less sharp than that at the Island of Erkegli, although in places the navigable channel was as narrow as 490 feet. The latter part of the course from the Island of Marisheff to the head of the gulf is perfectly straight, and ships could sail up it at night by hugging the coast and with the compass as a guide.

From the Island of Rau to the Micháelovsk station the voyage by steamer took 5 hours, and at 1 P.M. the steamer anchored opposite the fort. On inspecting the small temporary quay a few yards long, it appeared that, although drawing $3\frac{1}{2}$ feet of water, the steamer could come close up to it, which it accordingly did, and moored to the quay.

On the return voyage, the steamer started at 10-30 P.M., sailed by the light of the setting moon as far as the Island of Mengli, and thence proceeded during a somewhat foggy but starry night, guided by the sounding-rod, the compass and the faint outline of the coast. On reaching the curve near the Island of Mengli at 1 A.M., Skobeleff ordered the steamer to be anchored to give a rest to the crew who had been on their feet since early morning, and at day-break the steamer proceeded on her way successfully, although there were few marks along the navigable channel.

Navigation by night offered no dangers for ships; but as all the marks cannot be easily seen, it is better not to sail by night till beacons or lighthouses have been constructed.

All who had taken part in the voyage unanimously declared that the Gulf of Micháelovsk offered no difficulties to the transport of stores on towed barges, drawing in spring and summer not more than 6 and in autumn not more than 4 feet.* ~~The surveys made had~~ it was perfectly possible to transport of large quantities of stores into the heart of the country, and thus the long-debated question of the navigability of the Gulf of Micháelovsk and its suitability to the needs of the Expedition was settled, and the question of the construction of a railway from it to Kizil-Arvat could now be decided upon.

The Commander of the Expedition had utilised the time from 1 P.M. to 9 P.M. in a visit to the wells of Mulla-Kári. On this section, the surveys for the railway carried out by the Engineer Yugovitch had been finished, and the results enabled an opinion to be formed of the system and of the ways and means for carrying out the projected work.

Yugovitch explained that the laying of a light Décauville railway without foundations on the soft-yielding ground on the first $16\frac{3}{4}$ miles

* Colonel Tsikeln to the General Staff, No. 10, dated 6th (18th) June 1880.—*Author*.

from the Gulf of Micháelovsk to Mulla-Kári presented insurmountable difficulties, and indeed might be called impossible. Horses moving over sand embankments would destroy them, and one or two whirlwinds might blow the whole embankment away and leave the rails without support. Considerable earthworks or stockading would, therefore, be required to protect it, and, after all, there would be very little economy in constructing such a line as compared with a regular railway. It was true that the gauge of the Décauville line was only 19 inches, but to that must be added the extra breadth of embankment required for the horses of at least 4 feet, and therefore, on the whole, the cross-section of such an embankment would be little different from that of a broad-gauge railway. With a railway the first cause of the destruction of the embankment (by the horses' feet) would be avoided, and the second was only to be feared in a lesser degree, as the sandy embankments, which would not then be trampled upon by horses, could be protected from the wind by covering them with a coating of sand and clay mixed. When the rails were laid, this could be done at small cost by sending waggons to that part of the line where soil of the kind required could be obtained.

Thus the absence of a firm foundation made the construction of the railway extremely difficult, and the laying down of a light field line would be not less extremely than that of a broad-gauge railway.

The *maximum* which could be transported by the light field railway was 1,280 cwt. per diem. If it were required to double or treble this quantity, new lines would have to be laid. The expenses of working would, therefore, be proportionately increased by any extra work, while, with an ordinary railway, an increased movement of trains would cause a very slight increase in the cost of working. It was, therefore, best to lay down a broad-gauge railway on the first 16½ miles from the Gulf of Micháelovsk.

To arrive at a proper idea of what railway system was best suited to Trans-Caspia, General Skobelev thought it necessary to completely separate the ideas of our requirements for the Tekke Expedition from those of our general requirements in Central Asia. For the former the railway could only be an auxiliary, and the principal means of transport must be by camel carriage. The Army of Operations would require 22,400 cwt. of stores *per mensem*, and, as the Expedition was not restricted as to time, there could be no doubt that its needs could be supplied by camel carriage alone. Finally, the railway should not be relied upon as a line of communication, for no measures had as yet been taken for its construction, nor could hopes be held out as to its being finished in the immediate future, and armies could only rely with certainty upon assured lines of communication.

Leaving out of consideration the political difficulties which might be caused by the construction of a railway in Trans-Caspia, it was not considered possible at the councils held at St. Petersburg in the spring of 1880 to decide upon the system of construction of a railway to assist military operations against the Tekkes, as the country was unsurveyed, and there could be no confidence in the success of the undertaking. Under these circumstances, it was not considered advisable to transport 1,280,000 cwt. of stores to the Gulf of Micháelovsk, and at the same time to begin military operations, the construction of a railway, and the protection of the line from the enemy—and all that without camels or other transport. On the contrary, it was decided that the Expedition should be principally dependent on camel transport.

Our general position in the East was quite another matter. To strengthen this a railway was indispensable, and the line from Micháelovsk to Kizil-

Arvat was the first step in this direction. On the surveys being finished and Kizil-Arvat occupied, it would be possible to undertake the work with the required precision—all the more so as when we were established in the *oasis* the views of the Government would take a more definite form.

The desire of the Caucasus Military Authorities to conduct military operations by means of a railroad was the cause of the mixed system of transport (on camels and by a Décauville railway) being adopted. The reconnaissances and surveys, however, of the country between Micháelovsk and Mulla-Kári showed how completely impossible was the construction of a light field railway (horse-tramway) through it; and its prolongation from Mulla-Kári to Aidin or any other point nearer Kizil-Arvat would in any case require an increase in the means of transport* which it was impossible to spare from those told off for the force. It was therefore in every way advisable to construct at once a broad-gauge railway for the first $16\frac{3}{4}$ miles from Micháelovsk. This line would always retain its importance, and the Gulf of Micháelovsk would for a long time serve as our base of operations in Central Asia. As the surveys had shown, the depth of the navigable channel was not changeable, and if, at any future time, it became necessary to transport such a large quantity of supplies as to render it necessary to prolong the line from Mulla-Kári to Krásnovodsk, to avoid transshipment of stores, then the line from Micháelovsk to Mulla-Kári would become of great importance as an auxiliary route. As an experiment in the laying of a line through sandhills, the construction of this section would completely fall in with the ideas of Government, who had proposed to try during this Expedition, if possible, all kinds of means of communication across the desert so as to obtain data in the event of our having to develop our strength in Central Asia.

The expense of the construction of the section of line from the Gulf of Micháelovsk to Mulla-Kári, with 15 miles of main line and $1\frac{3}{4}$ miles of sidings, in all $16\frac{3}{4}$ miles, was estimated by the Engineer Yugovitch at 362,364 *roubles*.†

The Commander of the Expedition thought it useful therefore to at once commence the construction of an ordinary railway on the section from the Gulf of Micháelovsk to Mulla-Kári, and to lay the light field railway from Mulla-Kári to Aidin.‡

For the construction and working of this line, he considered it necessary to have at his disposal a second company of the 1st Reserve Railway Battalion.

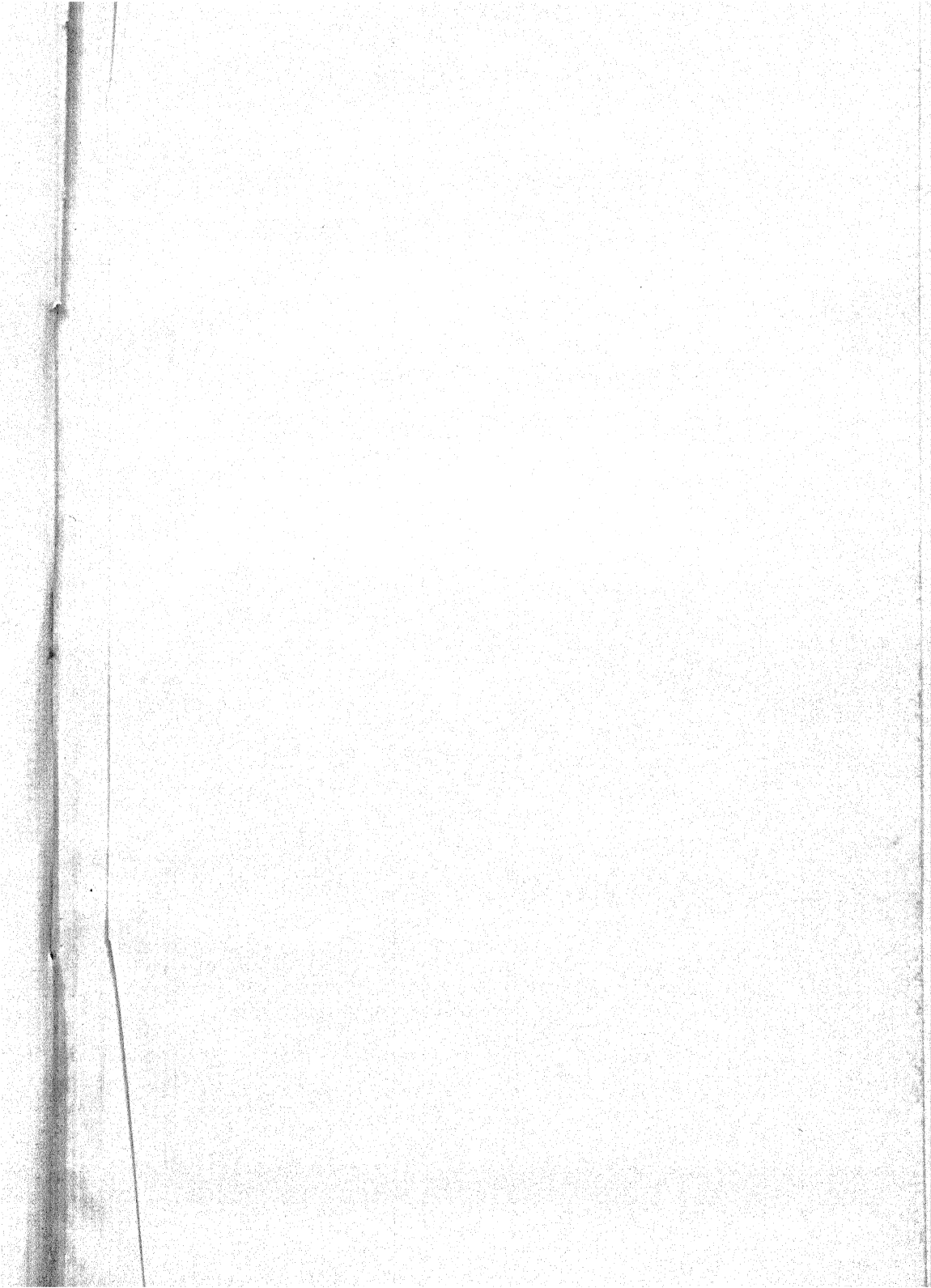
Both these proposals were approved by the Emperor on the 9th (21st) and 14th (26th) June.§ Orders were issued for the construction of the railway to be at once proceeded with, and, to avoid extra expenditure, the line was to have a temporary character, *i.e.*, the slopes were to be allowed to be somewhat greater than usual, and the rails for the whole distance were to be taken from the military depôts at Reni and Ungen. But as these rails could only be delivered at the Gulf of Micháelovsk during the period of navigation on the Volga and Caspian, it was decided to send them at once in greater quantities than were

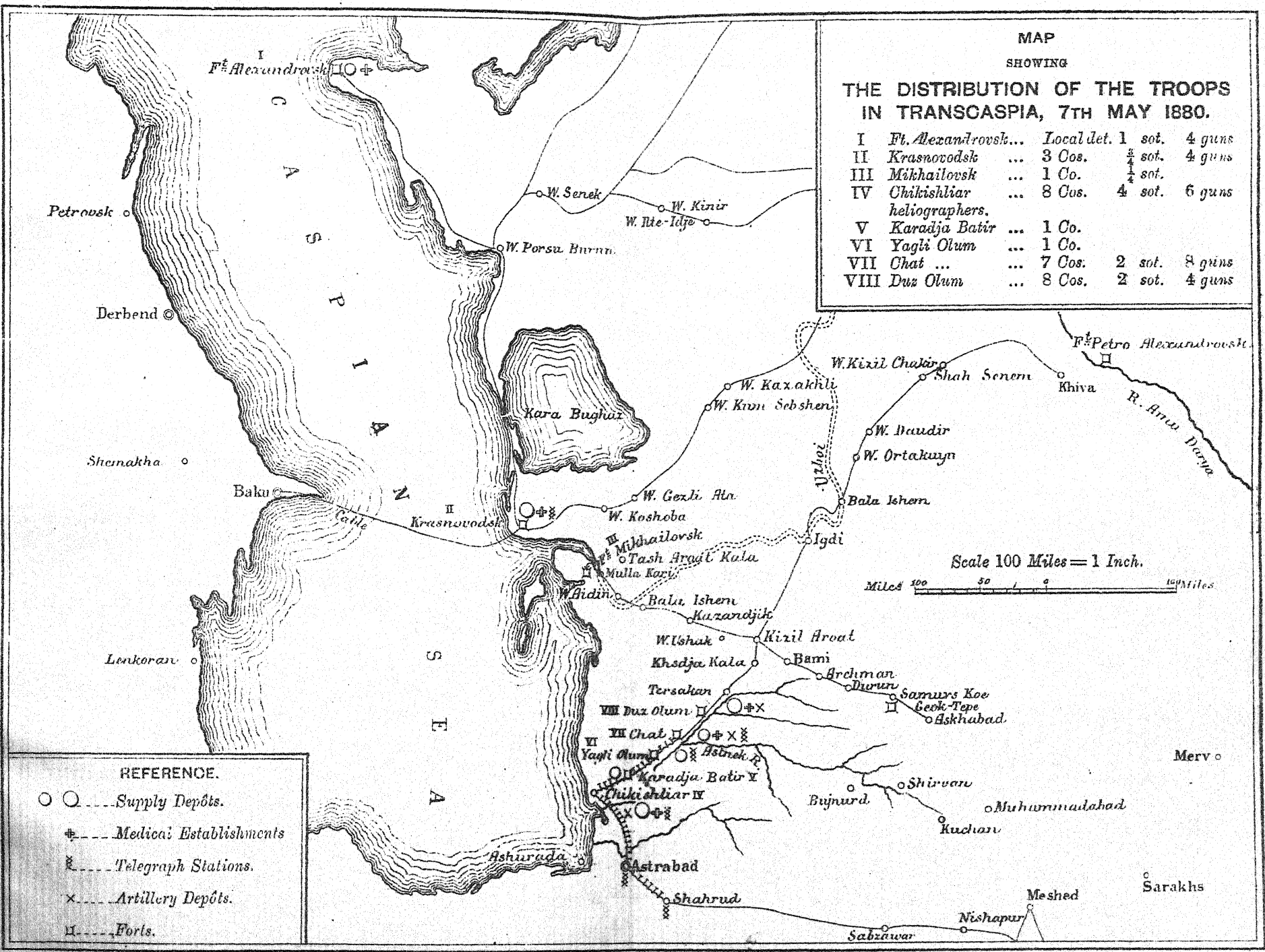
* The weight of stores required for 100 *vershs* ($66\frac{3}{4}$ miles) of Décauville railway was 47,140 cwt.—*Author*.

† Inclusive of the cost of the transport of rails and rolling stock, preparation of sleepers, earth-works, buildings, and water-supply.—*Author*.

‡ Skobeleff to the War Minister, 20th May (1st June) 1880, No. 544; and Memo. of the Opinions collected by the Commander of the Expedition relative to the settlement of the question as to the construction of a railway from Micháelovsk to Kizil-Arvat.—*Author*.

§ Order of the Military Department, 20th June (2nd July) 1880, No. 175.—*Author*.





MAP
SHOWING
**THE DISTRIBUTION OF THE TROOPS
IN TRANS-CASPIA, 7TH MAY 1880.**

I	Ft. Alexandrovsk...	Local det.	1 sot.	4 guns
II	Krasnovodsk ...	3 Cos.	$\frac{3}{4}$ sot.	4 guns
III	Mikhailovsk ...	1 Co.	$\frac{1}{4}$ sot.	
IV	Chikishliar ...	8 Cos.	4 sot.	6 guns
	heliographers.			
V	Karadja Batir ...	1 Co.		
VI	Yagli Olum ...	1 Co.		
VII	Chat ...	7 Cos.	2 sot.	8 guns
VIII	Duz Olum ...	8 Cos.	2 sot.	4 guns

REFERENCE.

○ ○ Supply Depôts.

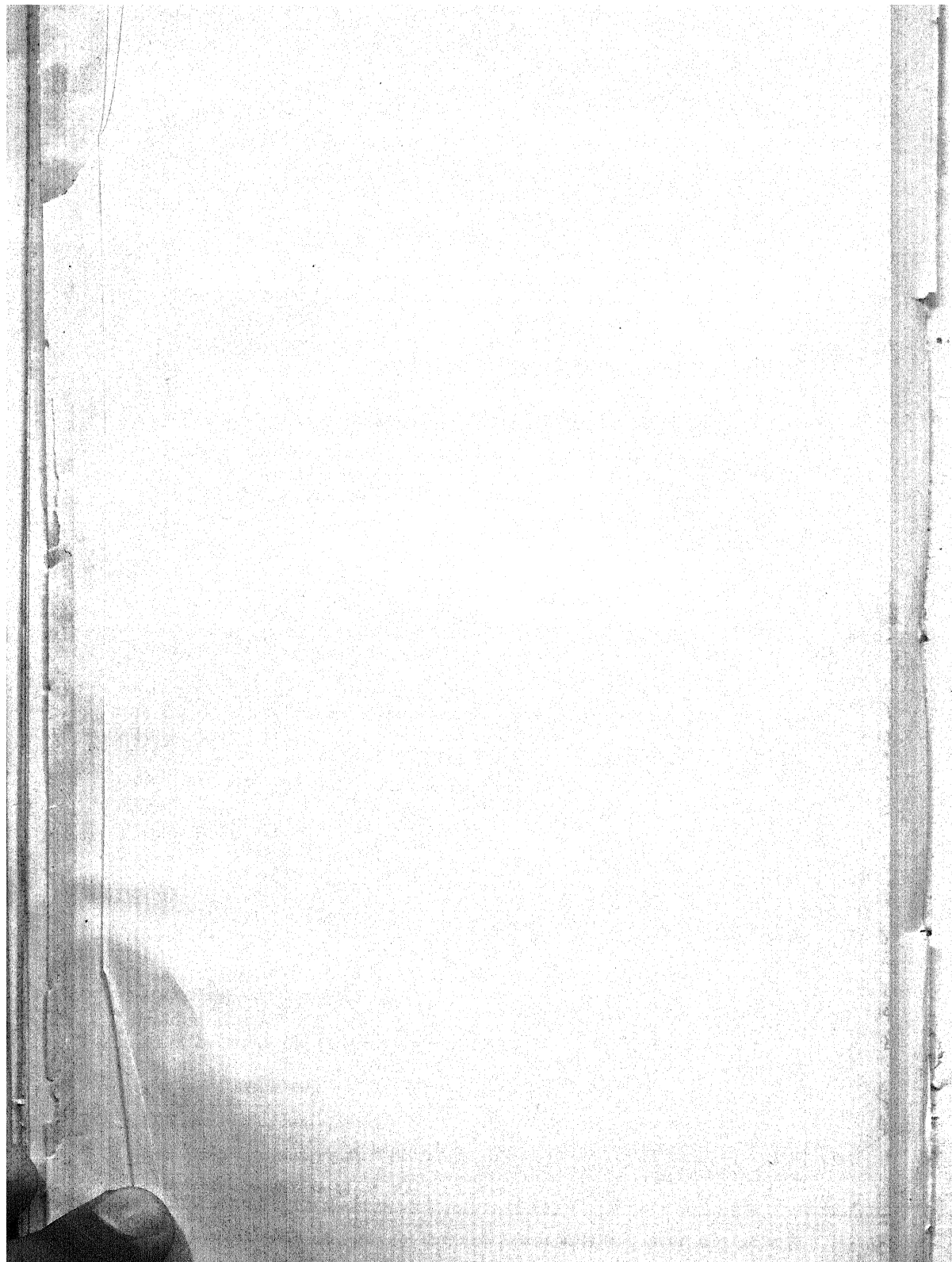
⊕ Medical Establishments.

⋈ Telegraph Stations.

× Artillery Depôts.

□ Forts.

Photozincographed in the Intelligence Branch, Or. Mr. Genl.'s Dept. in India, Simla, September 1884.
Examined J. A. A.



required, 23½ miles in all being sent, as the line would be certain to require repairs during the winter and to meet a possible prolongation of the line. The small stores required for the line, such as crossings, points, turntables, &c., which were not in the military depôts, and the rollingstock (4 locomotives, 25 covered goods waggons, and 75 trucks) were to be taken from Government stores.* The construction of the line was entrusted to the Engineer Yugovitch, who began work on it on the 20th July† (1st August).

The second railway company was formed in the same manner as the first at Moscow on the 22nd July (3rd August), under the direction of the Chief of the Staff of the Moscow Military District; but no railway engineers, technical officials, nor telegraphists were attached to it. It was considered necessary to increase the number of pack-horses, which in the first company had been reduced from 17 to 13, to the full complement of 34 for the two companies. The company was supplied with equipment from the Uhgen Park,‡ and arrived at Krásnovodsk on the 1st (13th) August.

"It is evident," wrote Skobelev at St. Petersburg in June, "that the railway now being constructed can of itself be of no importance for the narrow aims of the Akhál-Tekke Expedition; but when peace is restored in the steppe this line may be prolonged either to Askhábad, or, as seems to me more urgent, by Gezli-Ata, Kum-Sebshen, to New Urganj on the River Amu. We shall then have steam communication between St. Petersburg and Sámarkand. I am certain that a cheaper and shorter way cannot be found of uniting Turkistán with the rest of the Empire, and ensuring its safety and the development of its trade."

"If we intend to get any return for our present enormous expenditure, we must popularise the steppe route between the Caspian and the basin of the Amu. Here, as elsewhere, a beginning must be made by Government. One of my first orders at Fort Alexandrovsk was to establish a service of postal *Jigits* between it and Petro-Alexandrovsk,§ at which, after the closing of the Orsk-Kazála road, neither letters nor money orders arrived in anything like the proper time."

"As military circumstances permit, I will utilize the enterprising spirit of Gromoff to organise an ordinary postal service between Krásnovodsk and Petro-Alexandrovsk, if I receive permission."

"These letters will take during the summer 7 days from St. Petersburg to Krásnovodsk, 8 days to Petro-Alexandrovsk (470 miles), and 3 days along the Amu to Chahárjui—*maximum* total 21 days. From the Amu (Chahárjui) through Bukhára to Sámarkand is 3 days, but would be longer for packages. In winter the journey by Vladikavkaz and Petrovsk would be a little more difficult. Communication on the Amu is only closed for one month in the whole year."||

At his inspection of the 2nd Company of the Krásnovodsk Local Battalion at Micháelovsk, Skobelev remarked that though, on an alarm being sounded, they turned out smartly, they fronted to the sea, *i.e.*, with their backs to

* Report of the Committee for the Transport of Troops by Rail and Sea, No. 26—204, 9th (21st) June 1880.—*Author*.

† Telegram from Yugovitch to Annenkov, 22nd July (3rd August) 1880. The quay at Micháelovsk was to be ready on the 4th (16th) August.—*Author*.

‡ Report of the Committee for the Transport of Troops by Rail and Sea, No. 27—341, 15th (27th) June 1880.—*Author*.

§ From the Fort were sent a letter to Gromoff and papers to Grotenhelm. To keep up communication with the Amu-Daria District, Skobelev assigned 4,000 *roubles* to Petrusévitch. Skobelev's instructions to Petrusévitch, 23rd September (5th October) 1880, No. 5882.—*Author*.

|| Letter to Sobolev, 1st (13th) July 1880, No. 1, from Bámi.—*Author*.

the enemy. Notwithstanding the isolated position of this company, and the probability of attacks by the Tekkes, no orders had been issued by its commandant, from which the commanders of half companies or the non-commissioned officers could learn what they had to do on an alarm. In his order* Skobelev advised the commandant for the future to issue written orders for each special case, and to take care that each officer not only read but thoroughly understood them, and to convince himself that the orders were so understood. The officers, in their turn, were to explain to the non-commissioned officers and soldiers what was required of them.

Skobelev found the men's barracks and the married quarters at Krásnovodsk in a bad state, the married families being placed in huts unfit for human habitation. Thirty families were quartered in damp huts with only 216 cubic feet of air, or two-thirds of the quantity considered necessary for health, quite without ventilation, and with very little light.† Skobelev ordered a barrack to be cleared for the families, and the soldiers from it to be located in huts. The hospital was found in comparatively good order, but three-fourths of the patients were suffering from scurvy. The men's rations were satisfactory, but the meat was bad.

Having determined to put the local troops on a footing of complete equality with the field troops, and recognising that the supplies received by the men of the troops stationed at Krásnovodsk and Fort Alexandrovsk were unsatisfactory and unsuitable to the country, the Commander of the Expedition gave orders for the issue to them of ship's provisions in kind, as was done for the troops on the line from Chikishliar to Duz-Olum, instead of the 5½ kopecks daily ration money.‡ In the same way, the Commander of the Expedition gave permission for the officers, classed officials, and chaplains of the field and local troops at Krásnovodsk and Alexandrovsk to draw from the Government stores a soldier's ration of meat and ship's provisions—the same as the officers of the troops on the Atrak line.§

The three companies of the Krásnovodsk Local Battalion, when the alarm was sounded, turned out tolerably quickly, but the appearance and bearing of the battalion was not so good as that of the Alexandrovsk detachment. In the 6th *Sotnia* of the Laba Cossack Regiment the horses were in very bad condition, badly fed and badly groomed, and the men looked unhealthy and discontented. On the whole, the troops of the Krásnovodsk Garrison did not appear to the Commander of the Expedition to be in the best order, and in his order on the results of his inspection General Skobelev was compelled to say:—

“Troops of the Krásnovodsk Garrison! Standing close to the enemy as you do, you require stricter discipline and more military spirit. I hope in the immediate future to convince myself that you are fulfilling my desires, and learning how to show yourselves worthy brothers of the glorious Army of the Caucasus.”||

On the evening of the 7th (19th) May, the Commander of the Expedition arrived in the Chikishliar roads; and as he intended to inspect the camp at Chikishliar immediately upon his arrival, he ordered his horse to be swam ashore (2½ miles), and himself followed in a steam-pinnace. On the shore he was met by the local authorities and by the representatives of several tribes of Yamút-Turkumáns.

* 8th (20th May) 1880, No. 10.

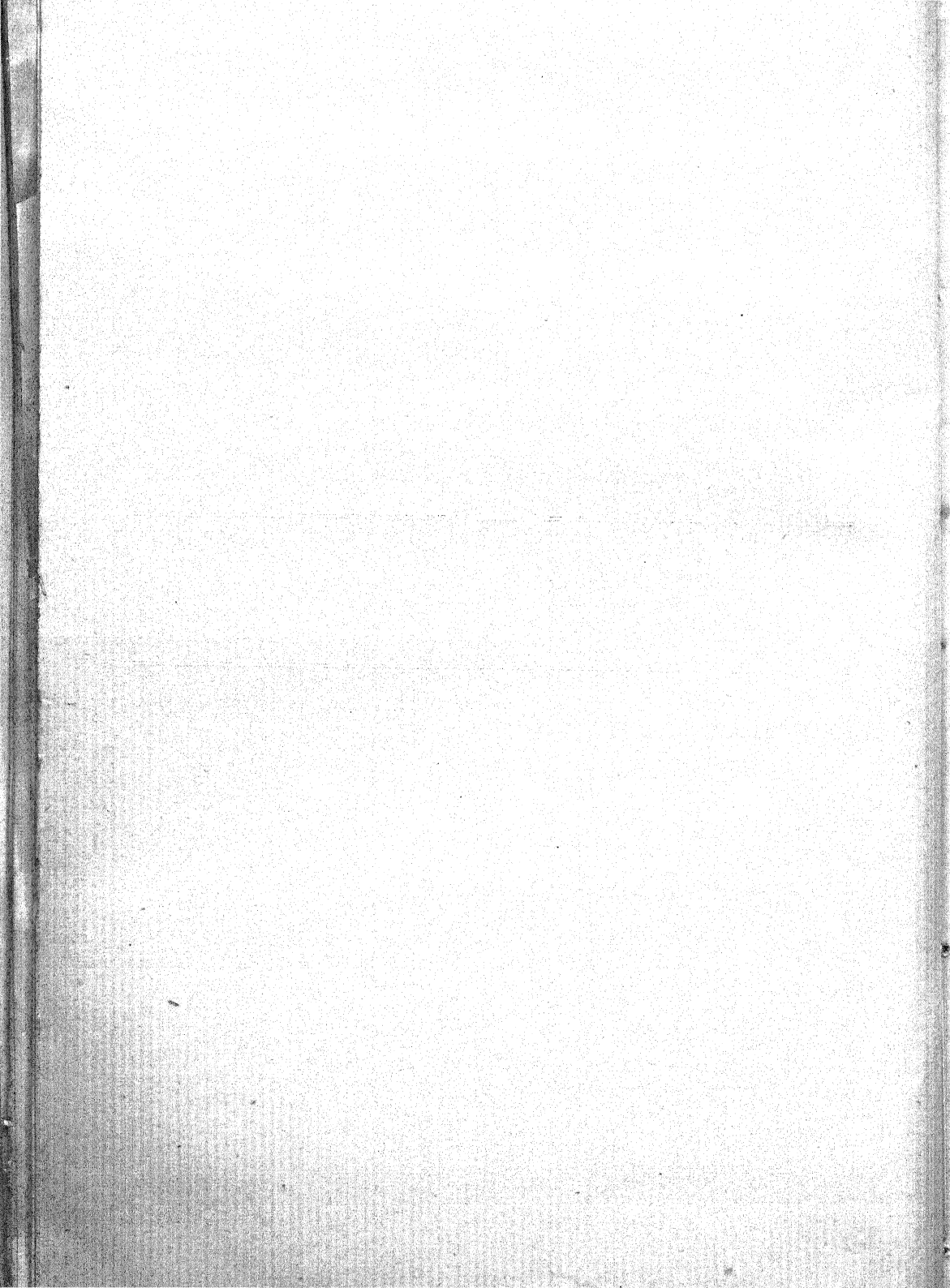
† Vereslitshagin's Report of 5th (17th) May, No. 67.—*Author*.

‡ Order to the Troops operating in Trans-Caspia, No. 33, 15th (27th) June 1880.—*Author*.

§ Order of the 20th May (1st June) 1880, No. 49.—*Author*.

|| Order dated 8th (20th) May 1880, No. 10; see Appendix No. 39.—*Author*.

APPENDICES.



APPENDICES TO CHAPTER I.

APPENDIX I.

I.—ROADS FROM CHIKISHLIAR TO THE AKHÁL-TEKKE *Oasis*.

A.—To Kizil-Arvat.

(1) Wells of Beyun-Báshi, 20 miles. Road quite level. The first $5\frac{1}{2}$ miles across sand, and very difficult for wheels. At Beyun-Báshi there is little water and what there is is very bad.

(2) Lake of Deli-Defe, $14\frac{1}{2}$ miles. Several ravines with steep banks cross the road. Banks of the lake covered with reeds. Water very bad.

(3) Gudri-Olum crossing, $10\frac{1}{2}$ miles.

(4) Báyat-Háji-Olum crossing, $19\frac{1}{2}$ miles.

(5) Yágli-Olum crossing, $13\frac{1}{2}$ miles.

(6) Tekenjik crossing, $1\frac{1}{2}$ miles.

(7) Chát, 16 miles.

(8) Khár-Olum crossing, $14\frac{1}{2}$ miles.

(9) Duz-Olum crossing, $17\frac{1}{2}$ miles.

Through these points the road traverses a plain of clay. Water from the river.

(10) Bair, $8\frac{1}{2}$ miles. Road up the right bank of the Sumbár across spurs of the Kuren-Dágh with rather steep slopes, difficult for artillery. In places, between these spurs there are rather deep and broad ravines in the clay soil, with very rugged banks. The banks of the Sumbár at Bair are vertical and from 70 to 105 feet high. The banks of the actual riverbed are covered with brushwood and grass.

(11) Spring of Uilya-Chashma, $31\frac{1}{2}$ miles. For more than 20 miles the road runs along a dry bed, the breadth of which is from 70 to 140 feet with steep banks from 42 to 49 feet high. The soil is clayey. In the bottom of the bed there is some grass and a little brushwood. Further on the road runs straight across hills with rounded summits. These hills form basins more than $\frac{3}{4}$ mile in diameter, and the road crosses successive small passes from one basin into another.

(12) Spring of Koshluk-Chashma, $4\frac{1}{2}$ miles. The road crosses a pass of the Kuren-Dágh 2,000 feet above the level of the Caspian. Road difficult. Water in the spring nearly fresh.

(13) Spring of Hájenem-Kuyusi, $25\frac{1}{2}$ miles. The road runs through the defile of Aji, which is narrow in some places and so broad in others as to have the appearance of a small valley. The hills are destitute of vegetation. The road through the defile presents some difficulty for field guns.

(14) The Tekke fortress of Kizil-Arvat, $11\frac{1}{2}$ miles. Road at first winds through the Aji defile, in the bottom of which runs a dry riverbed with clay banks. As Kizil-Arvat is approached the defile widens. Road clayey. The

fortress stands on the plain at the foot of the Kuren-Dágh range. Near it flows a small stream of fresh water.

Total length of road, $220\frac{1}{6}$ miles.

B.—To Bámi.

The abovementioned route was followed by Markozoff's troops in 1872. Subsequently in Lomakin's reconnaissances and in Lazareff's expedition of 1879, our troops used a somewhat shorter route, which that year was improved and in 1880 put in thorough order. It runs as follows:—

(1) Wells of Karája-Bátir, $30\frac{1}{2}$ miles. From the coast at Chikishliar the road crosses a sandy tract $5\frac{1}{2}$ miles broad. This part is so difficult for wheeled carriage, that waggons are usually taken across the sand on the evening before the day the troops have to march and left with a small escort, and the horses come out with the troops again next day to take the waggons on. Beyond the sands the road crosses a plain with a thin coating of sand in places. There are no obstacles to movement. This march is usually done in one day, as there is no water on the road. At Karája-Bátir there are 20 wells, in some of which the water is very good.

(2) Fort Yágli-Olum, $29\frac{1}{2}$ miles. In the rainy season there is a lake half-way on this stage, but in summer it dries up, and there is no water on the road at all. Troops usually march it in one day. The road is level and the soil clay. At about $13\frac{1}{2}$ miles the road traverses a slightly hilly region. At Yágli-Olum, water from the Atrak. As this water is unhealthy, a condenser was erected here in June 1880.

(3) Tekenjik crossing, 14 miles.

(4) Fort Chát, 16 miles.

(5) Khár-Olum crossing, $14\frac{1}{2}$ miles.

(6) Fort Duz-Olum, $17\frac{1}{2}$ miles. This stage is through a slightly undulating region. At Duz-Olum itself the road crosses the deep ravine in which the River Sumbár flows.

(7) Bek-Tapa, $12\frac{1}{2}$ miles.

(8) Point Társakan, $7\frac{5}{8}$ miles.

From Duz-Olum the road runs over spurs of the Kopet-Dágh, and is difficult on account of the numerous ascents and descents, which form a defile across which waggons can only go in single file. At the steep descents all the horses have to be taken out of the guns, which are then lowered by dragropes. The water in the Sumbár contains a large quantity of mineral salts. On the banks of this river, which runs at the bottom of a deep ravine with vertical sides, grow bushes and trees with thick foliage. The summits of the spurs of the hills and the banks and slopes of the Sumbár are bare of vegetation. At Társakan the road traverses a narrow valley, keeping along the Sumbár, through the remains of what was once a large forest. A bridge spans the river, the breadth of which is here 14 feet.

(9) Márgis, 15 miles. Although there are wells here, which were dug during the expedition of 1879, the water in them is so bitter, that it cannot be used even for animals, and therefore there may be said to be no water at this camp. Márgis abounds in *tarantulas* and scorpions. The road to it is over very broken ground, difficult for wheeled traffic.

(10) Fort Khwája-Kala, $15\frac{1}{2}$ miles. Ground very broken and slopes stony. A very long descent at the end of the march. The place known as Khwája-Kala is a valley watered by a fresh stream and covered with thick brushwood.

(11) Fort Band-Hassan, 16 miles. Road through a broad valley passing the ruins of Fort Chukhur-Kala. Ground even. At the foot of the hill on which Band-Hassan is built flows a marshy stream.

(12) Fort Bámi, 15½ miles. From Band-Hassan to Bámi the road traverses the Band-Hassan defile, rising at the 6th mile to the summit of the pass over the Kopet-Dágh. Here the descent into the *oasis* of Akhál-Tekke begins. The road is 5 feet broad and has many rather sharp turns. Guns are usually taken down by the wheel horses only, aided by drag-ropes. The descent of this pass with a large body of troops usually takes from noon till far into the night, and the march of even a small force from Band-Hassan to Bámi is very long and tiring. At the bottom of the descent the road traverses a defile through which a stream of fresh water runs that irrigates the fields of Bámi. This defile is rocky and very difficult for camels, as it hurts their feet. The northern slope of the Kopet-Dágh is covered with juniper plants (*archa*) and trees of different kinds.

Total length of road, 203½ miles.

II.—ROUTE FROM MICHÁELOVSK BAY (MICHÁELOVSK POST) TO KIZIL-ARVAT.

(1) Wells of Mulla-Kári, 14½ miles. Road over undulating sandy ground, with large sandhills covered with *saksaul*, between which are salt-hollows, some of which are nearly a mile in diameter. In dry weather these are so hard, that a horse's hoof makes no impression on them. About ¾ mile from Mulla-Kári, the road descends the tolerably steep sandy bank of one of the branches of the old bed of the Amu-Daria, the Ak-Tamu, beyond which lies Mulla-Kári. In this branch sea-water lies. Its breadth opposite Mulla-Kári is 420 feet, and its depth 3½ feet. A causeway has been built across it. There are ten wells here with abundance of water not far below the surface, and their number may be increased at any time according to requirements. The water in them is slightly salt with a strong smell of sulphuretted hydrogen gas. Fuel—*saksaul* and steppe grass. There is forage also.

(2) Wells of Kutol, 10 miles. First 4 miles over sand, after that more or less extensive salt-hollows. Some of the wells of Kutol lie in small kettle-shaped depressions and are faced with wattle-work. The water has a brackish taste with a slight smell of sulphuretted hydrogen.

(3) Wells of Tágir, 10½ miles. Soil sandy, but covered with small stones and steppe grass. Road crosses several shallow hollows over 350 feet broad. The wells of Tágir lie in similar hollows. Water slightly brackish. Wells faced with wattle-work.

(4) Wells of Bála-Ishem, 7 miles. Road as in previous stage. A large number of wells with plenty of fair water. Fuel and forage.

(5) Wells of Aidin, 16½ miles. On this stage the hollows become more frequent and the road descends the bank of the Uzboi. There are banks on both sides of the bed. Its bottom is destitute of vegetation, is of clayey sand or mud, and is quite horizontal, with depressions in places. The valley or channel of the Uzboi with all its different ramifications is about 3 miles broad at the point where it is crossed. The road rising to the right bank of the Uzboi traverses continually rising ground of a sandy or clayey nature, and at 3½ miles from the Uzboi reaches the wells of Aidin, 16 in number, deep, and with bad water.

(6) Wells of Kazánjik, $42\frac{3}{4}$ miles.* Road passes Akhcha-Kuima, where there is a lake in the rains. Soil sandy or clayey, with much salt in places. *Saksaul* and steppe grass in small quantities along the road. Former 1 to 4 feet high.

Wells of Kazánjik lie in a defile of the Kuren-Dágh, in which flows a stream. Water of wells fresh and of excellent quality.

(7) Spring of Uzun-Su, 10 miles. Road along the foot of the Kuren-Dágh. Soil tolerably hard and gravelly, and only in places and for short distances sandy or clayey (muddy after rain). It is cut up by a large number of small watercourses about 7 feet broad and as much as 4 feet deep. There is a good deal more vegetation here than in the sandy tracts hitherto traversed. Besides steppe grass, along the edge of dried-up streams are some stunted trees, and in the defiles above them and close to the hills there is grass. At Uzun-Su the water has a mineral taste with a smell of sulphuretted hydrogen. The temperature of the water,—that of the air being 2° R. ($4\frac{1}{2}$ F.),—as measured on the 7th (19th) December 1870 was $18\frac{1}{2}^{\circ}$ R. ($37\ 5\text{-}8$ ths F.), *i.e.*, Uzun-Su may be counted a hot spring. Near Uzun-Su is the small spring of Arvat, with fresh water.

(8) Wells of Ushák, 15 miles. Water abundant.

(9) Kizil-Arvat, $20\frac{3}{4}$ miles. Road from Uzun-Su of the same character as that from Kazánjik to Uzun-Su. At the foot of the Kuren-Dágh cultivation is possible in places by means of irrigation. Opposite Kizil-Arvat is a stretch of such ground 4 or 5 miles broad, in some places a little less. To the north of this there are sandy tracts. Through the fields of Kizil-Arvat flows the fresh-water stream of the Kizil-Arvat-Su, which gives enough water to irrigate the large melon and cucumber beds, fields, and kitchen gardens of the Turkumáns.

Total length of the road $146\frac{3}{4}$ miles.

III.—ROUTE IN THE AKHÁL-TEKKE *Oasis* FROM KIZIL-ÁRVAT TO ASKHÁBÁD.

(1) Village of Koj, $21\frac{5}{8}$ miles. A stream with fresh water irrigates the fields. Road level.

(2) Villages; Zaaú $5\frac{3}{4}$ miles, Jangi $2\frac{1}{2}$ miles, Kizil-Chashma $2\frac{3}{4}$ miles, Bámi 3 miles—total to Bámi $13\frac{3}{4}$ miles. Through all these villages flow streams, the water of which is conducted by small canals over the fields, none of which are of great extent, except those round Bámi. Through the latter runs a large stream. Two small groups of trees are seen at Zaaú and at Bámi.

(3) Village of Burma, $7\frac{3}{4}$ miles. Fields watered by a large stream. Road level; only one small ravine has to be crossed near Burma, the passage of which is easy.

(4) Village of Archman, $16\frac{1}{2}$ miles. No water on road.

(5) Villages; Suncha $8\frac{3}{4}$, Begerden $4\frac{1}{2}$, and Durun, $3\frac{5}{8}$ miles—total to Durun $16\frac{5}{8}$ miles. From Suncha right up to Ashkhabád there are gardens at every village. Road level.

(6) Villages; Kariz-Verdi-Khán 10 miles, and Kalát $3\frac{1}{2}$ miles—total $13\frac{1}{2}$ miles.

(7) Yegían-Bátir-Kala (Sámurskoye) 14 miles. On this stage two forts are passed,—Káfir-Kala and Isha-Báshi. In none of these places nor at

* In 1877 our troops in marching from Krásnovodsk followed, from Aidin, a more northerly route to Kizil-Arvat. The following were the stages:—Akhcha-Kuima (pool of rain water) $17\frac{1}{2}$, wells; Itak $17\frac{1}{2}$, Kapláni 12, Kutun-Kuima $11\frac{1}{2}$, Ajib, $22\frac{3}{4}$ miles, and Kizil-Arvat, $13\frac{1}{2}$ miles. This road is better than that here described.—*Author*.

Sámurskoye are there any trees. In the latter they were all cut down by the Russians in 1880-81.

(8) Village of Yangi-Kala, $8\frac{2}{15}$ miles.

(9) Village of Buzmein, $16\frac{3}{4}$ miles. On the way are passed the villages of Shor-Kala, Kala-Jár, Kordojev, and Báb-Arab.

(10) Village of Askhábád, $10\frac{3}{4}$ miles. On the way are passed the villages of Sálík-Kala, Khari-Kala, Gekche, Miráva, and Geshi.

Total length of road, $139\frac{3}{4}$ miles.

IV.—ROUTE FROM ASKHÁBÁD TO SARAKHS.

(1) Village of Annau, $8\frac{3}{4}$ miles. Road everywhere level, except 700 yards of low sandy hills between the 6th and 7th miles. Annau consists of an old half-ruined fort on a hillock on the banks of a stream. It is the only settlement in the Akhál-Tekke *oases* in which is to be seen a production of art—the ruins of a mosque. All its walls and arches are cracked, but a curved façade of very beautiful design is well preserved.

(2) Village of Gávárs, $13\frac{3}{4}$ miles. For the first half of the way the road runs over the smooth slopes of the hills, and at $6\frac{3}{4}$ miles, or half way, traverses some sandhills, which here approach very close to the hills. At Gávárs there are three “kalas,” of which two are inhabited, and the third is in ruins.

(3) Fort Bába-Durmaz, 24 miles. Road over perfectly level ground. Water from canal out of a mountain stream, slightly salt, but fit for use. All round the fort for some distance there are patches of brushwood.

(4) Town of Lutfábád (Bábajik), $14\frac{3}{4}$ miles. Road still over level ground covered with thick brushwood. Ground much cut up by burrows of animals, so that horses and even men stumble at every step. At $6\frac{3}{4}$ miles sand hillocks begin, with ruins of forts and watch-towers. At $10\frac{3}{4}$ miles is the small village of Artik. From it right up to Lutfábád the soil is cultivated. There are no bridges over the irrigation canals. On the River Durungiár at the place where it leaves the hills are four settlements, Kala-i-Mir, Shor-Kala, Lutfábád, and Kuren. The two latter are on hills and are seen from afar. The second and third are so thickly surrounded by gardens on all sides, that one cannot see them till one is within 100 yards of them. The inhabitants of Kuren are Alili. Shor-Kala, Kala-i-Mir, and Lutfábád are peopled by Persians leading quite a sedentary life. All live in mud-houses inside the city walls.

(5) Village of Kaakhka, 20 miles. This is the most fruitful and best cultivated part of the Atak. Here water abounds all along the road which continually crosses irrigation canals and springs, over which there are no bridges and movements are thereby somewhat impeded. Fields continue almost uninterruptedly throughout this route. North of the road the country is covered with thick reeds and brushwood. There are settlements all along the road at first in one, afterwards in two, and even in three rows. Besides the settlements at present inhabited, there are many ruins of forts and towers. At Kaakhka, as in most of the villages on this route, there is a new inhabited fort and an old ruined one. At Kaakhka there are 600 houses. Population Alili.

(6) Village of Khwája-Ahmad, $12\frac{3}{4}$ miles. The road first crosses a low offshoot of the hills with gentle ascents and descents. Beyond that the country is level. The inhabitants of Khwája-Ahmad are Tekkes. At present water only runs to about 600 yards from it. This village lies on low ground, and is seen only when one is a short distance off.

(7) Village of Dushák, $13\frac{1}{2}$ miles. Road over completely level and open ground, and Dushák can be seen 12 miles off. The soil is honey-combed by the burrows of animals. The villages of Dushák and Chahár-Deh consist of four forts placed alongside one another, three being south of the road on the smooth slope of the hill, and the fourth north of the road on a hillock of drift sand. The rivulet on which the forts are built rises in the mountains of Kalát, and is of respectable dimensions. Its banks are 14 feet high but of gentle slope, and it is easily crossed. In the rains this river overflows its banks.

(8) Village of Maana, $26\frac{3}{4}$ miles. No water on this stage. At half way a ravine crosses the road, but there is only water in this after heavy rain. The nearest river is 12 miles off in the hills. Ground level and destitute of vegetation. Cultivation begins $3\frac{1}{2}$ miles from the ruins of Maana, and extends up to them. Close by are the forts of Maana and Emráli, which are now occupied by Tekkes. Together they have 250 houses. The Maana stream is as large as that at Dushák.

(9) Village of Chaacha, 10 miles from New Maana and Emráli. Ground perfectly level. Road passes several sandhills and two forts, and crosses a line of dried up watercourses. Chaacha is a small fort, of which but a few ruins remain. There are about 30 Tekke families here occupied in agriculture. The Chaacha rivulet flows between steep banks, and is 7 feet broad and $3\frac{1}{2}$ deep.

(10) Fortress of Sarakhs, $36\frac{3}{4}$ miles. Road over perfectly level ground. At $13\frac{3}{4}$ miles from Chaacha there is an artificial reservoir for rain water, now almost full to the brim with sand. At $18\frac{3}{4}$ miles from Chaacha the road crosses the Marv-Mashad road. From the 20th to the 24th mile the ground is cut up by hillocks and sandhills about 7 feet high. This part is called Cherkezli. The brushwood here is seldom higher than a man, and is not very thick. The movement of carts between the sandhills can only be impeded by the insufficient width of the track, as the soil is excellent for traffic. On leaving this undulating tract the brushwood disappears, and the ground is covered with rank grass and prickly plants.

Sarakhs is a very large fortress and is held by a Persian garrison. Its fields and gardens are inside the walls. The bed of the Tajand is dry for the greater part of the year, and is 300 to 900 yards broad, and in some places even more. Water only comes down to Sarakhs after very heavy rain, or after the melting of the snow in the mountains. Then it flows some distance to the north of Sarakhs and fills an artificial lake formed by dams that serve to irrigate the fields. Sarakhs derives its water-supply from two watercourses,—(1) from wells inside the fortress in which water is found at a depth of 20 feet, and (2) from a canal $9\frac{1}{4}$ miles long leading from a reach of the Tajand in which there is always water.*

Total distance by this route, 180 miles.

V.—ROUTE FROM THE ATAK (VILLAGE OF KAAKHKA) TO MARV.

(1) Dam of Kari-Bent on the Tajand, $50\frac{3}{4}$ miles. No water on the road. The first mile is through the fields of the Alili (the inhabitants of Kaakhka), and then through reeds, beyond which extends a plain entirely covered with under-foot herbage. At $2\frac{3}{4}$ miles amidst abandoned ploughed fields are the ruins of Old Kaakhka. Beyond the fields of Old Kaakhka there is first some reedy ground, and then for $3\frac{1}{2}$ miles the road traverses the hard sands of the

* *A Journey to Sarakhs*, by Mr. P. M. Lessar, in the *Izvestia (Intelligence)* of the Imp. Russ. Geog. Society of 1882.—*Author*.

Donguz-Kum. These are covered with *saksaul* and are easily traversed by wag-gons. Beyond them stretches a clayey plain, also dotted over with *saksaul*. At $2\frac{3}{4}$ miles from the end of the sands lie the ruins of the fort of Baivánchi, which is also surrounded by abandoned ploughed fields. These fields are watered by canals brought from the River Khaibábád, which flows through Kaakhka. Owing to the Persians having stopped the supply of water, the inhabitants went away to Marv. The canal, however, is still capable of bringing water to this place. The road next traverses the large salt-hollow of Shor, which, with the least rain, turns into an impassable morass. It is thickly covered to an unusual extent with *saksaul* higher than a mounted man, the diameter of the stalk of the plant being more than a foot. $6\frac{3}{4}$ miles from Baivánchi the road crosses the wall of Set-Iskander or Set-Súdur, traces of which are first met with at Gávárs. This wall is $10\frac{1}{2}$ feet in diameter at its base and as many high. $\frac{3}{4}$ mile beyond the old Torli-Yáb Canal is crossed. This was formerly supplied with water from the Dushák-Torli-Kala rivulet. The ruins of the canal are situated above Baivánchi. The people of Torli-Kala abandoned their homes for the same reason as the inhabitants of Baivánchi. The Torli-Yáb bed is overgrown with *saksaul*, but they say that water can even now flow in it. For $14\frac{3}{4}$ miles beyond it the road traverses a monotonous clayey plain, cut up in places by salt-hollows and covered with *saksaul* and rosemary. For $2\frac{3}{4}$ miles extend the sands of Kurdannan-Kum, which are very difficult for troops to cross. Almost in the middle of them and to the left of the road is a small salt-hollow, near which is the large *tumulus* of Takir-Tapa.

On leaving these sands the road enters the limits of the former Tajand *oasis*, and the plain loses its desert character. From the end of the sands to the Tajand is $17\frac{1}{4}$ miles. All along the road are passed dry irrigation canals, ruins of towers, cemeteries, ruined forts, and lastly abandoned ploughed fields of great extent, and large canal beds, sometimes in several rows, cross the road. About 6 miles from the river the road crosses the ravine of Tajand-Kiál, in which formerly flowed one of the branches of the river. $1\frac{1}{4}$ miles further on it enters a "tokai" or thick *saksaul* wood, and follows a tortuous and narrow path through it. In the "tokai" it passes the old fortified camp of the Khivan Khán, Medem. Crossing three large canals, each 35 to 42 feet broad and 21 to 28 deep, the road reaches the old bed of the Tajand at the dam of Karri-Bent. The old bed runs in a shallow and tortuous course, in some places 120, in others 500 paces broad, the bottom being thickly covered with reeds and rosemary.

The dam of Karri-Bent is 340 paces long, 21 feet broad and 21 feet high. Beyond the dam is the square (700 feet a side) mud fort of Oráz-Khán. An exterior wall in the form of a semi-circle called the wall of Kára-Oglán surrounds the fort at a distance of 300 paces. The walls of the fort and of Kára-Oglán are in places broken down. 350 paces beyond these ruins is a precipice, at the foot of which flow the muddy waters of the Tajand. The new bed, which the river opened sluggishly for itself about ten years ago, leaves the old one about $\frac{3}{4}$ mile above Oráz-Khán-Kala, and unites with it again at a slightly greater distance below, thus forming the small island on which the Kala stands.

The banks of the Tajand at Karri-Bent rise about 42 feet above the water, in a succession of terraces covered with bushes of rosemary. The distance between the banks is 120 to 500 paces. The quantity of water in the river is extremely variable, it being almost dried up in summer, only a few pools of greater or less length remaining in the bed. From the beginning

of autumn the water gradually begins to flow again, and continues to run till the middle of April, at which time its mean depth is 7 feet and its breadth 60 to 70 feet. At the ford the *maximum* depth is 4 feet 8 inches. From the middle of April the water begins to rise, and the river on attaining a height of 42 to 49 feet overflows its banks and frequently inundates the country on each side for many miles. The river remains in this state till the beginning of June, when its level begins to fall; but even at that time the passage at Karri-Bent is impracticable, at least for camels. There are no fish in the Tajand, but on its waters there are a large number of waterfowl. In the beginning of February 1882 the temperature here was 28° R. (63° F.). They say that in summer the air becomes so hot, and such swarms of mosquitoes, gnats, gadflies, &c., infest the reeds on the banks, that the Tajand district is simply unbearable, both for men and animals.

(2) Wells of Dort-Kuyu, 47½ miles. There is no water on the road. The right bank of the Tajand presents traces of having been inhabited at no distant date. In the first 3 miles six large dry canal beds cross the road. At 9½ miles another canal is reached, beyond which flows in a northerly direction another old bed of the Tajand called Kára-Kiál. At 14½ miles a little to the south of the road are the hills called Gok-Suyurlár, the ridges of which are covered with the ruins of buildings of burnt brick. The large plain to the west of Gok-Suyurlár is covered with wormwood, the smell of which may be recognised from afar. All the country from the ridges to these hills and to 11½ miles beyond them is a smooth clayey plain, here and there cut up by salt-hollows and by sandy stretches in three places. Both the plain and the sands are covered with *saksaul*. Leaving this, the road enters the sands of Chojukli-Kum, which, though at first hard and smooth, soon become soft and deep. At 2¾ miles sandhills 21 feet high begin, which are at once broken into by a large salt-hollow. Here a road branches off to the caravanserai of Tásh-Rabát, the ruins of which lie on the road from Sarakhs. Beyond the salt-hollow the road enters the Kulan-Ala, a broad clay plain covered with scanty and small bushes of rosemary. This it crosses until it reaches the ruins of Kulan-Rábat, 10¾ miles from the sands of Chojukli-Kum. A canal leads to these ruins, and this formerly supplied the neighbourhood with water from the Murgháb.

From Kulan-Rabát to the wells of Dort-Kuyu is about 8¾ miles, of which the first 1½ miles are over the plain of Kulan-Ala. After that the sands of Kulan-Rabát-Kum are passed, at the edge of which and to the north of the road lies the tomb of Kára-Oglán-On-Begi. All the country between this tomb and the end of the stage is covered with sandhills overgrown with vegetation. *Saksaul*, rosemary, and other desert plants here form an impenetrable thicket, in which live numbers of wild boar, pheasants, and hares. In one place the sand disappears, and the open clayey space thus formed is cultivated by the Marvtsi, who feed their cattle in this steppe. The sands present no obstacles to movement.

At Dort-Kuyu there are four wells, the mouths of which are lined with *saksaul*. When visited in 1882, there was water in two only, and that was very salt and in small quantity. They say that if these wells were cleared out, an abundant supply of good water would be obtained.

(3) Wells of Koyun-Kuyu (Saat-Bai), 13½ miles. The first 2¾ miles are across the sands of Kulan-Rabát-Kum, and then a wooded plain is traversed, on which, at a distance of 3½ miles, 15 irrigation canals are crossed. On both sides the road is bounded by former ploughed fields, in the middle of which

are seen the ruins of field-towers and of small mud buildings. Leaving this region of former cultivation, an undulating tract is traversed to the wells of Koyun-Kuyu, which is one of the usual pasture grounds for the cattle of Marv, and there are therefore on both sides of the road a large number of ditches or deep and broad pits dug out to catch the rain water for the cattle. On the hillocks and in the depressions is found firewood and forage. At Koyun-Kuyu there are four wells, with much water at a depth of 63 feet below the surface ; but the water is bitter, and becomes stinking after being heated.

(4) Fortress of Kaushid-Khán on the Murgháb, 30 miles. At 2 miles from Koyun-Kuyu the first cultivation is met with, watered by canals from the Murgháb ; and this extends uninterruptedly for $2\frac{3}{4}$ miles. This is the edge of the Marv *oasis*. To the left of the road where it leaves the cultivation is the large basin of Kulakli-Chungul, 49 feet deep and about $\frac{3}{4}$ mile in circumference. Down the ravine, which leads into it from the north, flows rain water, which remains in the basin for several months. Near this depression the road passes the ruined fort of Kulakli. Beyond Kulakli-Chungul the road crosses the hard and easily passable sands of Karaul-Kum, which are about 2 miles broad. Cultivation begins again beyond them, with numerous irrigation canals and towers here and there, and extends for $7\frac{1}{4}$ miles to a small lake. Hence to the canal of Ak-Yáb, for $9\frac{1}{4}$ miles, the whole country is cultivated. Beyond this canal it is more cut up ; gardens and enclosures alternate with mud-huts ; canals and irrigation channels intersect the country in every direction on both sides of the road, and this description applies to the whole region right up to Kaushid-Khán-Kala.*

Total length of road $141\frac{1}{2}$ miles, and from Askhábád by Kaakhka, 222 miles.

VI.—ROUTE FROM GÁVARS BY ANAUAZ-CHUNGUL AND ALAMÁN-CHUNGUL TO MARV.

(1) Lake of Anauaz-Chungul, $75\frac{1}{2}$ miles. No water on the road. The first twelve miles from Gávares are over a perfectly bare plain on which neither firewood nor forage is found, and the road next enters the Krimsa-Ajár, a wood of low *saksaul* about $5\frac{1}{4}$ miles long. After passing through this the next $6\frac{3}{4}$ miles are over a bare plain with low brushwood in places, and in the next 16 miles the bushes become higher and higher, a little forage for horses and camels being found among them. Another thick forest of *saksaul* called Soltandesh-Tokai is next traversed, and after that the sands of Soltandesh-Kum ; and for the next $21\frac{1}{2}$ miles, to the sands of Kiál-Kum-Ata (a clayey plain covered with underfoot forage and high brushwood), salt-hollows and sands are met with at almost every mile, the former being perfectly bare. The Kiál-Kum is in two places traversed by dry beds of former branches of the Tajand. Beyond it the ground for the first $3\frac{1}{2}$ miles is covered with rosemary, the next $4\frac{3}{4}$ miles are occupied by one large salt-hollow called Kaba-Sakal, and the next $5\frac{1}{2}$ lie alternately over sands and salt-hollows. Traversing in the last $1\frac{1}{2}$ miles a belt of reeds and salt pools, the road arrives at two lakes in the dry bed of the Tajand called Anauaz-Chungul. The larger is 200 paces in circumference with banks $17\frac{1}{2}$ feet high, the depth of water being 14 feet† and quite fit for use.

* The Marv Oasis and the Roads to it, by Lieutenant Alikhánoff.—Author.

† In March 1882.—Author.

(2) Canal of Karája-Yáb, $14\frac{2}{3}$ miles. Beyond the lakes the road traverses the Anauaz-Tokai, a huge sea of reeds, among which sandy hills covered with *saksaul* rise in places like islands. These reeds extend for many dozen *versts* to the north-west, and in them all the branches of the Tajand disappear. In some places the reeds extend uninterruptedly, in others they are mingled with patches of rosemary. Throughout this region, which is occasionally broken by sandy patches, the road runs for about $14\frac{2}{3}$ miles to the Karája-Yáb canal.

(3) Lake of Alamán-Chungul, 26 miles. From the Karája-Yáb the road crosses the Tajand *oasis*, in places traversing sandy stretches, but generally through cultivation and gardens and across several irrigation canals. In some parts *saksaul* and rosemary crop up, in others the ruins of mud building are passed. Several dry canals and old branches of the Tajand called Kizil-Jár, Kecheli-Jár and Tajand-Kiál, and the following canals with water are crossed, *viz.*, at $5\frac{1}{2}$ miles Shikh-Yáb, at $7\frac{1}{2}$ Bek-Yáb, at $9\frac{1}{2}$ Khwája-Kuli, at 16 and 18 miles the Otamish-Yáb, and at $20\frac{2}{3}$ miles Babán-Yáb.

Alamán-Chungul, or "the Robbers' Lake," is in the old bed of the Tajand-Kiál, at a depth of about 28 feet. It has a circumference of about 236 paces, and its water is about 7 feet and of a slightly bitter taste. The ground round the lake is covered with *saksaul*.

(4) Wells of Churli-Kuyu, 48 miles. Beyond Alamán-Chungul the road continues across the Tajand *oasis* for 8 miles, through pastures, melon beds, and over irrigation canals, interspersed with small patches of sand covered with *saksaul*. 40 miles from the last fields of the Tajand *oasis* lie the wells of Churli-Kuyu, with brackish water sufficient for the daily supply of 6,000 sheep. Leaving the *oasis*, a sandy stretch is passed, after which the plain of Shapagat, 2 miles broad, is entered. Beyond it extend sands for $3\frac{1}{2}$ miles, and then for $4\frac{2}{3}$ miles a region of sandhills called El-Airdi, with three small salt-hollows in the middle of them. For the next $18\frac{1}{2}$ miles extend the so-called Eddi-Ala, seven plains alternating with as many stretches of sand; and for $4\frac{2}{3}$ miles beyond them the road passes through the high sandhills of Kum-Yáb, bounded by the huge salt-hollow of Naiza-Berki, which is more than $1\frac{1}{2}$ miles broad. Thence to the wells of Churli-Kuyu ($10\frac{2}{3}$ miles) extend the mounds of Churli-Kum. These mounds are about 42 feet high.

(5) Wells of Allak-Kuyu, $11\frac{1}{2}$ miles. Road first over the Kilchán-Kum sands, $5\frac{1}{2}$ miles broad, with sandhills about 42 feet high. The next four miles are over sands cut up by small salt-hollows and hard patches, and then the plain of Gechkrán is traversed, and $2\frac{2}{3}$ miles beyond this are the wells of Allak-Kuyu. On the Gechkrán are the ruins of towers, several dried up wells, and disused pasture grounds. There are three wells with fresh water, but not so abundant as those at Churli-Kuyu.

(6) Canal of Gummyush-Tapa-Yáb, $12\frac{2}{3}$ miles. Beyond the wells extend for about 8 miles the sands of Allak-Kum plain, and over them no road exists. The sandhills are so overgrown with *saksaul*, that a horseman can with difficulty move between the trees, and stumbles at every step over the roots. After a little wind not a trace of a path remains. Leaving these sands, the road crosses an old bed of the Murgáb, the Orta-Ozuk, in which water only flows up to this point in the floods. To the left of the road and at some little distance from the old bed is a small grove of trees fit for building purposes called Top-Topangi. At $1\frac{1}{2}$ miles beyond the Orta-Ozuk there is for nine months in the year a camp of 150 *kibitkas* belonging to herdsmen, who drink the water of the wells close by, and rain water; but when this

supply fails them in summer, they move further into the *oasis*. $4\frac{3}{4}$ miles from the Orta-Ozuk the road lies partly across the sands of Burgutli, and partly over a plain covered with rosemary : it then crosses the first canal from the Murgháb with water in it, the Gumyush-Tapa-Yáb, and enters the Marv *oasis*.

(7) Fortress of Kaushid-Khán-Kala, $24\frac{1}{4}$ miles. At $1\frac{1}{4}$ miles cultivation begins and continues for $3\frac{1}{4}$ miles, the fields being watered by the canal of Ak-Bai-Yáb. Beyond these stretch for $2\frac{3}{4}$ miles the sandhills of Kára-Dovrán, and then the road crosses the two large canals of Behbit and Takhtaki, beyond which are more sands, and to the right of the road a mass of reeds, caused by the overflow of the Murgháb. Close to the road is the small lake of Torgai-Kul. The River Murgháb, from where the Orta-Uzuk leaves it, flows at some distance to the right of the road, and is about 2 miles from the lake of Torgai-Kul. On its south bank is seen at this point the large hill of Kára-Tapa.

Beyond the lake again extend for a distance of $3\frac{1}{4}$ miles the huge sandhills of Torgai-Kum, and after passing them the road crosses the two large canals of Torgai-Yáb. Here the River Murgháb approaches to within 1,400 feet of the road, and on it, where the last named canals leave it, is a small dam called Torgai-Bent by which foot-passengers can cross. Beyond the Torgai canals begin the sands of Ana-Kurt, along the southern edge of which the road runs, and then issues on to an open plain extending to Kaushid-Khán-Kala. Where the road leaves the sands, the Murgháb approaches it closely, and on it is the dam of Chorlakh-Bent. The first $2\frac{3}{4}$ miles of the plain traversed after passing this dam are covered with underfoot herbage, and then cultivation begins, extending for 2 miles along the road. Beyond is a similar plain $2\frac{1}{4}$ miles, and then there are pasture lands up to the walls of Kaushid-Khán-Kala.*

The total length of this road is $212\frac{1}{4}$ miles, from Askhábád to Kaushid-Khán-Kala the distance being $234\frac{1}{4}$ miles. At certain times of the year Turkumán horsemen use this road only in cases of extreme necessity ; and when the Marvtsi, who arrived at Askhábád in May 1882, were asked by what road they meant to return home, they replied that it was impossible for them to go at that time by Alamán-Chungul, as they numbered 100 horsemen, and so they returned by Kaakhka and Karri-Bent.

Note.—A road leads from Annau to Alamán-Chungul. This road, first of all, follows four waterless marches over sands to the 40 wells of Bukurulán, in the reeds of Anauaz-Tokai, 20 miles north of the lake of that name. Thence it traverses the reed-beds and passes the wells of Yeketarangi, Uch-Kuyu, and Sengerli and Lake Sichmaz-Chungul, and unites with the first road at the border of the Tajand *oasis* near the sands of Nukur-Kum. This road is circuitous and is not so good as the other, as its first half goes over waterless sands, and the second through almost impenetrable reed-beds, where mosquitoes and gnats swarm.*

VII.—ROUTE FROM MARV (KAUSHID-KHÁN-KALA) TO DÉH-I-NAU ON THE AMU-DARIA, TRAVERSED BY LIEUTENANT NAZIROFF IN JUNE 1882.

(1) Point Kosh-Tapa, on the River Jár, $16\frac{3}{4}$ miles. On both sides of the road are ploughed fields, gardens, and occasionally vineyards. The last $5\frac{1}{4}$ miles are over uncultivated ground.

* *The Marv Oasis and the Roads to it*, by Lieutenant A. Alikhánoff.—*Author*.

(2) Ruins of Kishmán, 22 miles. There is a bridge across the river Jár at its narrowest point. The river is not more than 35 to 50 paces broad, but it cannot be forded, as it is deep, and its bottom is muddy. Stories are told of horsemen trying to cross this river having got stuck in the mud, and horse and rider being drowned. Beyond it the country is covered with a shallow coating of sand overgrown with steppe grass, and everywhere are seen potsheds and broken pots.

The following story is told to account for the presence of the latter. The people of Marv, wishing to escape from the destruction with which they were threatened by some unknown enemy, made large pots (*khums*), with which they covered themselves; but the enemy discovered the unfortunate ones, broke their pots, and killed them all; hence the country is covered with broken pottery.

The road crosses an irrigation canal, and then passes Munan-Tapa and Chulluk-Tapa. At $2\frac{3}{4}$ miles to the right of the road is the hill of Suli-Tapa, and in line with it but to the west and $5\frac{1}{2}$ miles from the road is the hill of Kobekli-Tapa, past which runs the shortest road to the wells of Sairáb. From Munan-Tapa there are a large number of ruins on the right side of the road, and the route lies over hard ground with ploughed fields in places, the last irrigation canal being $2\frac{3}{4}$ miles from Kishmán.

Kishmán is a four-sided building, on the north-east angle of which is a minaret 35 feet high. Its walls are so well preserved, that it could still be defended; but at present there is no water in it. Opposite the fort on the left side of the road are two hills and a very high place with ruins. According to the Turkumáns, these mark the position of the old town of Kishmán, and the building now standing was the *Karaul-khána*, or guard-house. On the road from the River Jár underfoot forage is scarce.

(3) Wells of Sairáb, $37\frac{1}{4}$. The road first crosses a salt depression 16 miles broad, then runs over shallow sands covered with *saksaul* in places, but perfectly flat, for $5\frac{1}{2}$ miles. Another salt-hollow with little patches of sand, $6\frac{3}{4}$ miles broad, is next traversed, and then the road winds among sandhills covered with *saksaul*. At $34\frac{3}{4}$ miles the road enters a sort of defile, with hills on both sides thickly covered with *saksaul*. The sand on the road is shallow, and the defile is 21 to 35 feet broad. It soon widens out however, and finally forms a broad basin, in the middle of which are the wells of Sairáb, round which for 500 paces all the *saksaul* has been cut down by caravans. There are two wells, both wattled with *saksaul* and of conical form, the diameter at the mouth being less than 28 inches. The wells are so broad, that a man can easily descend to the water by supporting himself with his hands and feet resting on either side of the well. The depth to the water is 23 feet 4 inches; that of the water itself 5 feet 10 inches. The water in these wells is so abundant, that the caravan with which Lieutenant Naziroff marched, consisting of 100 camels, 50 horses and 30 asses, was fully supplied, notwithstanding that a Bukháran caravan had already watered its 60 camels there, but at the end water had to be baled into the buckets by hand. The wells fill up to their proper level within 6 hours. The water is transparent and brackish, but does not cause diarrhoea. Between Kishmán and Sairáb there is no underfoot forage; near the latter, however, there is a little.

(4) Pits of Malai-Kum, $33\frac{1}{4}$ miles. The road is first over sand, and the hillocks are thickly covered with *saksaul*. At 600 yards from Sairáb on the left side of the road is a little ruined tower with a reservoir near it, both made of burnt brick. At $16\frac{3}{4}$ miles is a place called Shorruk. The road as

far as this is hard and well-marked. A road here branches off to the right, which leads by Bálkui and Eshek-Rabát to Chahárjui. The road to Dih-i-Nau traverses deep sand covered with *saksaul*, and the beaten path ceases, thus the track is easily missed, but can be traced by the dung of animals all along it. At Malai-Kum are 3 large pits, and the Turkumáns think that they would be good places for sinking wells. There is underfoot forage along the road.

(5) Well of Adil, $21\frac{1}{2}$ miles. In the sands of Malai-Kum horses sink above the hoofs. From there the road runs over the sands of Shir-Shutur, which are still deeper and more difficult. Throughout this stage there is hardly a trace of a road, and horses sink in the sand half-way up to the knee. These sands are the most difficult part of the whole route, and are the terror of caravans, as the least wind makes the road very dangerous and drives the sand to such a degree, that numerous tales are told of how even experienced men have lost their way and perished. Shir-Shutur means "camel's milk," and the spot is said to be so called because some men who were perishing with thirst in it were saved by meeting a stray she-camel. These sands would present great obstacles to the movement of artillery and carriages in general. As the well of Adil is approached, the sands become shallower, but horses still sink above the pastern. Along the road, as far as the eye can reach, on all sides are seen nothing but sandhills covered with *saksaul*, whereas the sands of Shir-Shutur are very bare, with only a few tufts of *saksaul* here and there.

The only well at Adil is in the centre of a basin the diameter of which is about 300 yards, the ground falling all round towards the well and the basin being surrounded on all sides by high sandy hills. The well contains an abundant supply of beautifully clear water at a depth of 11 or 12 feet, the depth of the water being 7 feet. The well is conical, the opening being 28 inches in diameter. The sides are covered with *saksaul* wattle, and are so close together, that a man can descend to the bottom without using a rope. The Turkumáns usually do this when the water is low and a large caravan has to be supplied. On the distant hills grow *saksaul* and wheat. There is no forage for horses and camels, but camels eat the leaves and branches of the *saksaul*.

(6) Village of Dih-i-Nau on the Amu, 28 miles. From Adil the road runs among sandhills with deep sand, in which there are no traces of a road. It often too passes round the base of very large hillocks. This stretch of sand is called Dágjik and extends for 10 miles. The road then enters the salt-hollow of Shorruk, which extends for $7\frac{1}{2}$ miles, and then again crosses sands in which horses sink over the pastern. There is no trace of a road, and the track is marked only by the dung of camels and other animals. The sandhills, which are mostly of horse-shoe form with the opening towards the mouth, extend for $3\frac{1}{2}$ miles, and from their summits the gardens of Dih-i-Nau can be seen. Beyond them is a salt-depression. On these sands there are no bushes and only a few stumps of *saksaul*. In the hollows of the sandhills some steppe plants are found, which horses eat readily. The salt-depression is covered with small sandhills, which, owing to the absence of *saksaul* bushes, are constantly being blown about by the wind.

The village of Dih-i-Nau is $29\frac{1}{2}$ miles to the west of Chahárjui, and a road over level ground along the left bank of the Amu, with bridges over all the irrigation canals crossed, joins the two.*

* Compiled from a route drawn up by Lieutenant Naziroff, of the 1st Turkistán Rifle Battalion.—*Author*.

VIII.—ROUTE FROM CHIKISHLIAR BY THE UZBOI TO THE WELLS OF IGDI.

(1) Wells of Ak-Patlaugh, $8\frac{3}{4}$ miles. These wells are near the White Hill, as their name implies.* At the foot of the hill is a group of fresh lakes. The road to the wells is level and over salt soil devoid of vegetation, as is also the country round the wells.

(2) Wells of Tagán-Klich, $18\frac{3}{4}$ miles. 65 wells, with water 4 feet below the surface; the water is 9 feet deep, and fresh.

(3) Wells of Giámýájik, $20\frac{1}{4}$ miles. 3 wells, with a small supply of brackish water. A good deal of vegetation, and even a few trees.

(4) Wells of Chukhuru-Kuyu, $3\frac{3}{4}$ miles. 18 wells; water $10\frac{1}{2}$ feet below the surface, $2\frac{1}{2}$ feet deep, and fresh. Abundance of forage. The road is over sands.

(5) Wells of Bugdaili, $20\frac{1}{8}$ miles. 15 wells; water 7 feet below the surface, 2 feet deep, and fresh. Abundance of forage. Here the Turkumáns cultivate water-melons.

(6) Wells of Yárikhli, $64\frac{1}{8}$ miles. Road at first over salt-patches cut up frequently by ravines caused by torrents of rain water, which are sometimes swampy and difficult to cross. Half-way the road traverses a region of sandhills, and at $33\frac{1}{2}$ miles passes the pit of Shairdi, which holds rain water. It looks like a lake, and is 1,400 feet long and 350 broad. Not far from it is another one of smaller dimensions. On the road there is some brushwood.

(7) Wells of Aidin, $10\frac{3}{4}$ miles. 16 wells; water 14 feet below the surface, unfit for drinking, and very injurious.

(8) Wells of Orta-Kuyu, $8\frac{1}{4}$ miles. The well of Alti-Kuyu is $\frac{5}{8}$ mile from there, and that of Kis-Pára is $1\frac{1}{2}$ miles further on. A large quantity of water.

(9) Wells of Chaloi, 6 miles, with much water.

(10) Wells of Buiráji, $6\frac{3}{4}$ miles. 12 wells; water 3 feet below the surface, and brackish. From Kis-Pára to Buiráji the road runs along the bottom of the Uzboi, passing in places marshy salt-patches.

(11) Wells of Zoyuruk, $9\frac{1}{2}$ miles. 11 wells, filled with slightly brackish water, 3 feet deep. A salt lake close by is full of reeds. There are some *saksaul* and tamarisk bushes.

(12) Wells of Akhcha, $6\frac{3}{4}$ miles, and Dekcha, $\frac{3}{4}$ mile further on. 15 wells in the two groups, 3 to 7 feet deep, with fresh water. There are a good many reeds and some *saksaul*. As the bed of the Uzboi is moist from Dekcha to Emerlyu-Koj, and even muddy in places, the road for the most part follows the bank.

(13) Wells of Eskháp, 9 miles, Yaskháp, $1\frac{1}{2}$ miles, Emerlyu-Koj, $1\frac{1}{2}$ miles, and Tokhlu, $4\frac{3}{4}$ miles. All these wells are shallow and have a large quantity of water in them, and at the last mentioned there is a fresh lake. There is brushwood everywhere, and even a few trees are met with.

(14) Lake of Kára-Tegelek, $1\frac{1}{2}$ miles; fresh water. $\frac{3}{4}$ mile further on are the fresh wells of Sayid-Kuyúsi, 6 in number, with abundance of reed and brushwood.

(15) Tolerably fresh wells and Lake of Topiátan, $1\frac{3}{4}$ miles. All the wells are full to overflowing, and almost from one large lake. There are small fish in the lake.

(16) Wells of Dekcha, $7\frac{1}{4}$ miles, Burgun, $10\frac{1}{4}$ miles, and Tagalek and the Lake of Jamála, $9\frac{3}{4}$ miles, further on. The road sometimes is on the right,

* "Ak-Patlaugh" signifies the "White Hill."—Author.

and sometimes on the left bank of the Uzboi. At the wells are Turkumán melon and cucumber beds. At Jamála there are two lakes, one being in the bottom of the Uzboi. This one is small, and has sloping banks covered with reeds, a muddy bottom, and brackish water. Opposite Jamála a bluff of the "Chink" of the Ust-Yurt (the "Boguráslan Kir") approaches the Uzboi, and ends in an almost perpendicular wall.

(17) Well of Arvát, 4 miles. Water good; road over hard soil and level, except at the descent into the Uzboi and the ascent from it. Brushwood and reeds are met with in places. At the wells are Turkumán melon beds.

(18) Wells of Khalmáji, $10\frac{3}{4}$ miles. Water bitter, but can be drunk by men, especially from one well, the lowness of the temperature of which conceals the taste.

(19) Wells of Yaníja, 22 miles. Water very salt, warm, and with a taste of sulphuretted hydrogen.

(20) Wells of Igdi, $11\frac{1}{2}$ miles. There is a second group of these wells $3\frac{1}{2}$ miles further up the Uzboi, both groups lying in the bed itself. The water in the first is brackish, and that in several of the wells cannot be drunk, even by camels. In the second group the water is of tolerable quality. The bed of the Uzboi here is narrow and changeable, being at times dry and at others it is covered with salt lakes. From Khalmáji to Igdi the road is over undulating sands and hard, the sandhills becoming higher and higher as Igdi is approached.

Total length of this road, $281\frac{1}{2}$ miles.*

IX.—ROUTES FROM KRÁSNOVODSK TO THE KHÁNATE OF KHIVA.

A.—By Sári-Kámish.

(1) Wells of Yanguja, $22\frac{1}{2}$ miles. For half the distance the road runs along the shore of the Bay of Krásnovodsk, and then turns into a gorge of the Kuvo-Dágh Mountains. Here it is very tortuous, steep-sided, narrow in places, strewn with stones, and rocky underfoot. There are three wells, $17\frac{1}{2}$ feet deep, with much water; and although it is brackish, horses drink it readily, and men can use it for cooking and for drinking purposes after boiling.

(2) Wells of Kásin, $10\frac{3}{4}$ miles. Road first goes through a very tortuous defile, the bottom of which shows clear signs of a swift torrent sometimes existing in it. The track then rises to a plateau, on which are the wells of Kásin, situated in broken ground. There are 6 wells, the water being 175 feet below the surface, $24\frac{1}{2}$ feet deep, and good.

(3) Wells of Suyúli, $16\frac{1}{2}$ miles. The road is over a level plateau. 11 wells; water 138 feet below the surface and 21 feet deep. From Krásnovodsk to within a mile of Kásin there is very little vegetation, and here there are only prickly plants and steppe-grass.

(4) Spring of Kushába, $27\frac{1}{2}$ miles. Road over level ground passing between several sandhills, some of them 40 feet high. The sand is covered with grass and brushwood. The spring flows in a ravine; its water is fresh, and it is overgrown with reeds. The banks of the ravine are covered with brushwood.

* *A Journey in Trans-Caspia in 1872*, by Stebnitski, in the *Proceedings of the Caucasus Section of the Imp. Russ. Geog. Society*, 1873, Vol. II, No. 1: Markozoff's *Reconnaissance in the autumn and winter of 1871*, in the same publication for 1872, Vol. I, No. 3: Manuscript notes of persons who took part in the operations of the Krásnovodsk detachment.—*Author*.

(5) Wells of Gezli-Ata, $15\frac{1}{2}$ miles. Country level and sandy. At $5\frac{5}{8}$ miles pass the wells of Gurji, 4 in number, $73\frac{1}{2}$ feet deep. There is no water in three of them, and in the fourth it is only $3\frac{1}{2}$ feet deep and is putrid. The want of water here is of no importance, as Kushába and Gezli-Ata are so close. The water of the latter is abundant, fresh, and found at a depth of $17\frac{1}{2}$ feet. From Suyúli to Gezli-Ata the country is covered with forage. The sands, as throughout Trans-Caspia, are covered with brushwood.

(6) Well of Karaul-Kuyu, $12\frac{3}{4}$ miles. Road at first over a plateau, then through sandhills. There is only one well, and it is brackish, and its water is 56 feet below the surface; but it may be fully calculated upon to supply the wants of any caravan.

(7) Pit of Bulmuzir, $18\frac{3}{4}$ miles. Road over broken ground. The pit or ravine of Bulmuzir is a large rocky rent in the general slope of the ground, with a clay bottom open towards the north. The upper part of this ravine, which forms a natural cistern 140 feet in diameter, is always filled with rain water. The nomads say that two or three falls of rain are necessary before the cistern is filled with water enough to last a year. The entire drainage of the country for some distance round falls into this pit; hence the plentiful supply.

(8) Wells of Aoglamish, $16\frac{3}{4}$ miles. Road crosses several ravines, of which that at $7\frac{1}{2}$ miles presents serious difficulties to caravans, and especially to carts. The ascent from this ravine to the height separating it from the wells of Aoglamish is very long, and in places steep and narrow. At one place for a distance of 70 feet it rises in steps. There are a number of wells at Aoglamish, with water 11 feet below the surface, 35 feet deep, and brackish.

(9) Wells of Chágil, 14 miles. 12 wells, with water 14 feet below the surface, fresh, soft, and agreeable to the taste, but there is little of it. On the road from Gezli-Ata to Chágil, wherever there is sand, there is brushwood—as, for example, at Karaul-Kuyu, Bulmuzir, Aoglamish, and Chágil, at all of which places there is also some grass. Little vegetation is found on the heights, except prickly plants.

(10) Spring of Doungra, $4\frac{1}{2}$ miles. Road lies over small patches of sand. The water of the spring is bitter, but good for camels, and at a pinch for horses. The proximity of Doungra to Chágil, in which there is little water, permits of camels, which require a large quantity of it, being watered at this spring, thus saving the water at Chágil. The nomads always do this, and, besides, they are thus saved the trouble of drawing water in buckets.

(11) Wells of Kum-Shebshen, $38\frac{3}{4}$ miles. As far as the ascent to the flat plateau of Begenzaali-Kir, road is much cut up by ravines. There are here more than 100 wells, water (brackish) being found at a depth of 56 feet. The depression in which they lie is covered with sand, with brushwood and grass, thus making it a good camping ground.

(12) Wells of Kazákhli, 23 miles. The road crosses a spur of the Ust-Yurt. There are 2 wells, the water of which the Turkumáns say is very bad, and even injurious to camels. When our troops visited them, the water in one well was putrid, but tolerable in the other. They are not deep and contain little water.

(13) Wells of Uzun-Kuyu, $35\frac{1}{2}$ miles. Road over the Ust-Yurt on level and hard ground with little vegetation, steppe-grass only here and there, and a little low brushwood. Water 133 feet below the surface, 28 feet deep, and inexhaustible.

(14) Wells of Aji-Kuyúsi, 49 miles. For 16 miles the road runs along the Ust-Yurt, then descends from it and crosses a region of low sandhills. The wells are on the banks of the salt lake Betendal-Gel, and their water is very bitter. It can be used for cooking however, and camels and horses drink it always.

(15) Wells of Sári-Kámish, $16\frac{1}{2}$ miles. The road crosses sand covered with stunted brushwood. The wells lie in the bed of the Uzboi, but the descent to them is very steep, long, and narrow. There is little water in them.*

(16) Wells of Dekcha, 12 miles; a few wells, with much water, in the bed of the Uzboi.

(17) Ak-Bugut, $23\frac{1}{2}$ miles.

(18) Igenklich, 16 miles.

(19) Dam of Salak-Band, $16\frac{1}{2}$ miles.

(20) Canal of Kujuk, 16 miles.

(21) Town of Kuhna-Urganj, $13\frac{1}{2}$ miles.

On the road from Sári-Kámish there is fuel (tamarisk and *saksau*), but no forage, except at the wells of Dekcha, where there are many reeds which are good for horses. There is good water in sufficient quantity at all the halting-places, except at Dekcha, where it is bitter and almost undrinkable.

(22) Canal of Shamrát, $23\frac{1}{2}$ miles.

(23) Garden of Kizil-Takir, $13\frac{1}{2}$ miles.

(24) Town of Iliáli, $13\frac{1}{2}$ miles.

(25) Town of Tásh-Hauz, 20 miles.

(26) Town of Kázavat, $31\frac{1}{2}$ miles.

(27) Khiva, $13\frac{1}{2}$ miles.

The road is through a cultivated country.†

Total from Krásnovodsk to Khiva, $532\frac{5}{8}$ miles.

B.—By the Uzboi.

(1) Wells of Kurt-Kuyúsi, $25\frac{5}{8}$ miles. Water bitter.

(2) Wells of Belek, $22\frac{3}{4}$ miles. Water bitter, and bad for horses.

(3) Wells of Ushák, 27 miles. 2 wells, 7 feet deep, fresh water.

(4) Wells of Kárez, 10 miles. 10 wells; water 14 feet below surface, 4 feet deep, and fresh.

(5) Wells of Kosh-Agirli, 7 miles. Road over rough slopes of great Bal-khán; 20 wells, water 84 feet below surface, 7 feet deep, and fresh.

(6) Wells of Aji-Kuyu, 22 miles. Water brackish.

(7) Wells of Buuráji, on the Uzboi, 10 miles.

Thence by the Uzboi to the wells of Igdi, the total distance from Krásnovodsk being $235\frac{1}{2}$ miles.

X.—ROUTE FROM KRÁSNOVODSK TO CHIKISHLIAR.

From Krásnovodsk to Mulla-Kári there are two routes,—one by water past the island of Rau in Micháelovsk Bay to Micháelovsk Post and thence by a

* "A description of the road from Krásnovodsk to the Dekcha wells traversed during the reconnaissance of 5th (17th) September to 1st (13th) November 1871 by Colonel Malam, "vide *Journal of the Caucasus Section, Imp. Russ. Geog. Soc.*, 1873, No. 8: Lieutenant-Colonel Markozoff's *Reconnaissance with the Krásnovodsk troops in the Turkistán steppes in the autumn and winter of 1871*, vide *Proceedings of the same for 1872*, Vol. I, No. 3.—*Author*.

† *Turkistán*, by Kostenko, Vol. II.—*Author*.

march of $14\frac{3}{8}$ miles to Mulla-Kári, the other by land by the wells of Kurt-Kuyúsi $25\frac{3}{8}$, Belek $22\frac{3}{8}$, Ushák 27, and Mulla-Kári, $11\frac{1}{8}$ miles.

Thence by the following route :—

(1) Wells of Kutol, 10 miles. First 4 miles over sand, then over more or less extensive salt-hollows. Water brackish, but abundant. Wells faced with wattle.

(2) Wells of Tágir, $10\frac{1}{8}$ miles. Sandy soil, with a large number of small stones. Ground covered with steppe-grass. The road crosses several depressions. The wells are faced with wattle and their water is brackish, but in sufficient quantity.

(3) Wells of Bála-Ishem, 7 miles. Road as above. A large number of wells, with a plentiful supply of tolerable water.

(4) Shairdi rain-pit, $36\frac{1}{8}$ miles. Road first crosses the salt stream of Giaur, which flows out of the Kuren-Dágh, but does not reach the sea, and ends in a marsh. Its breadth is about 5 feet. The Turkumáns say that it never dries up. Its bottom is muddy, and the crossing is difficult. The pit of Shairdi lies in a large salt-hollow, and looks like a lake. It is 490 feet long and 350 broad, and ditches have been dug to carry water to it.

(5) Wells of Bugdaili, 33 miles. At $10\frac{3}{8}$ miles is passed the rain-pit of Yegenáji. There is much water at Bugdaili, and two of the wells are faced with burnt brick.

(6) Wells of Chukhuru-Kuyu, $20\frac{1}{8}$ miles.

(7) Wells of Tagán-Klich, $20\frac{3}{8}$ miles.

(8) Wells of Ak-Patlauk, $18\frac{3}{8}$ miles.

(9) Wells of Chikishliar, $8\frac{3}{8}$ miles.

These wells contain fresh water and are of small depth, the water being only $10\frac{1}{2}$ feet below the surface at Chukhuru-Kuyu, the deepest of all.

Total length by the road round the Bay of Balkhán, $251\frac{3}{8}$ miles.

XI.—ROUTE FROM ALEXANDROVSK TO KRÁSNOVODSK.

(1) Wells of Saga-Kuduk, 20 miles. Road even and straight; soil clayey and sandy. In the three wells there is a quantity of good water at a depth of 14 feet. There is forage and fuel (dung).

(2) Well of Tul-Kulu, 20 miles. Road level and hard, no sand. One well in a deep ravine. Water 14 feet below surface, and fresh. Little forage near. Fuel (dung).

(3) Well of Kalipe, $23\frac{1}{8}$ miles. Road crosses several hills and valleys.

(4) Wells of Agispe, $23\frac{1}{8}$ miles. Road good; soil clay and sand. 4 wells, less than 7 feet deep; a good supply of good water. Little forage. Enough fuel.

(5) Well of Urpek, $26\frac{3}{8}$ miles.

(6) Wells of Ullu-Kuyu, 20 miles. 3 wells, about 21 feet deep; much water. Forage and fuel (dung).

(7) Wells of Khwája-Niáz, $16\frac{3}{8}$ miles. 2 wells, less than 7 feet deep; sufficient water. Forage and fuel (roots of grass).

(8) Spring and wells of Appák, $26\frac{3}{8}$ miles. Little water in the spring, but enough in the wells.

(9) Wells of Porsu-Burun on the shore of the Bay of Kindarli, 20 miles. Water is easily got by digging a hole in the sand, 10 feet deep. Water brackish with a strong smell of sulphuretted hydrogen. No forage; a little firewood.

(10) Wells of Temir-Bába, 19 miles. Road level and a little sandy. Two springs, with a good deal of brackish water. About 1,200 yards off is a small well, with fresh water. A quantity of forage, firewood and reeds.

(11) Támli, $30\frac{3}{4}$ miles. Near Temir-Bába there is a pass over a high hill; and close to the road is the well of Kuijá, with little water. There is no water at Támli, and water must be brought from Temir-Bába; but there is forage and fuel.

(12) Wells of Buzát, $26\frac{3}{4}$ miles.

(13) Wells of Bek-Tásh, $22\frac{3}{4}$ miles. Abundant water and good under-foot forage for camels.

(14) Wells of Ajálma, $24\frac{1}{4}$ miles. No fuel or forage. Much water of excellent quantity in the well.

(15) Gulf of Kára-Bugaz, 13 miles. Road sandy and difficult for wheels. As many wells as necessary can be dug, water being found at 2 or 3 feet below the surface. There is fuel.

(16) Crossing of the Kára-Bugaz. This is carried out in Turkumán fishing boats. The men, food, and saddlery go in the boats, and the camels and horses swim. The camels swim across behind the boats, the men in them holding on to their leading ropes. Each boat takes four camels. From one bank to the other is 490 feet. Camp at Oráz-Sakar, 3 miles.

(17) Wells of Kárshi, 19 miles.

From Bek-Tásh to Kárshi, there is forage.

(18) Wells of Isen-Kuli, $23\frac{1}{4}$ miles.

(19) Wells of Kosh-Agirli, $20\frac{1}{6}$ miles.

(20) Krásnovodsk, 14 miles.

From Kárshi there is water, forage, and fuel in sufficiency.*

Total length of this route, $412\frac{1}{2}$ miles.

XII.—ROUTE FROM KINDARLI BAY TO KHIVA, FOLLOWED BY THE MANGISH-LÁK COLUMN IN 1873.

The base from which our troops operated against Khiva was the wells of Porsu-Burun on the northern coast of Kindarli Bay. The country all round is level and desert. $3\frac{3}{4}$ miles to the north of the wells is a small hill 350 yards long. Sand covered with mussel shells separates it from the Bay, and its slopes are clayey and in places stony. There are a number of wells upon it and many others may be dug. The sides of the wells, or rather pits, are unrevetted, and therefore they are easily filled up by strong winds. The water is brackish with a strong smell of sulphuretted hydrogen.

(1) Wells of On-Kaundi, 14 miles. The road after taking a rise continues over level ground for $8\frac{3}{4}$ miles, and then traverses a somewhat undulating tract offering no difficulties to movement. There are three wells at the foot of a mound encircling the dried-up lake of Kaundi, which is now a salt-hollow. The water is bitter, and causes pains in the stomach. It is 21 feet below the surface, and is in sufficient quantity. The wells are revetted with stones. There is forage or fuel round about them.

(2) Wells of Senek, 47 miles. For 40 miles the road is over nearly level ground, and only in a few places are small hills passed. A road then branches off to the wells of Sumsa, 8 miles off. At $41\frac{1}{2}$ miles there is a slight descent

* *The Mangishlák Peninsula*, by Lomakin, pp. 20-23: *Our Operations in Trans-Caspia from 1869 to 1879*, Soboleff, p. 82:—*Turkumania and the Turkumáns*, Kuropátkin, in the *Voyenni Sbornik*, 1879, No. 9.—*Author*.

leading to a tolerably broad ravine, in which are the wells. On the left side of the road are sand hillocks covered with *saksaul*, and on the right (south) side is a rocky hill, by which runs the road to the wells of Bish-Akti. The soil along the whole route is hard clay. There are 5 wells at Senek faced with stone, with an abundant supply of excellent fresh water 35 feet below the surface. There is abundance of fuel and forage, and the whole ravine looks like a fertile meadow.

(3) Wells of Bish-Akti, 10½ miles. Road through sand-hillocks covered with *saksaul*. The sand is deep, and would make the movement of artillery and wheeled carriage very difficult. At 3 miles from Senek the wells of Yegushán, three in number, with good fresh water 28 feet below the surface, and revetted with wattle. Bish-Akti has five wells lined with stone, with abundance of excellent water, and a good deal of forage and fuel.

(4) Springs of Kámisti, 8½ miles. Road for 3½ miles over sand, then for ½ mile over a salt-hollow, then over clay. ½ mile from the springs there are two very steep descents on which carriages require man-handling. The springs are in a deep rocky gorge, in which for ½ mile a stream, overgrown with reeds, flows. The water in all the springs is brackish and has a taste of iron, but still is palatable. There is abundance of forage and fuel (reeds).

(5) Wells of Kárashtshek, 20 miles. For the first 9½ miles the road is over salt soil, then sands begin, across which, especially at 12½ miles, the movement of guns and wheeled carriage is very difficult. At 13½ miles there is a descent to the wells of Ashtshe-Kuyu, which lie in a deep ravine. There are here 5 wells, in one of which the water is fresh and good for all purposes. In the others it is very salt and bitter. Depth to water 35 feet. Ascending by a sandy slope, the road traverses a region of sandhills, which is very difficult for troops. The sands are thickly covered with high *saksaul*. At Kárashtshek there are 2 wells, with bitter water, which animals will hardly touch. Their depth is 35 feet, and the water is abundant. The wells are at the foot of a high hill with the same name.

(6) Wells of Sai-Kuyu, 3 miles. 18 wells, 7 feet deep, in most of which the water is fresh. Road level and straight. Half-way some sands are crossed, which are shallow and covered with *saksaul*. Abundance of forage and fuel.

(7) Wells of Busága, 18½ miles. Road level and straight. First 4½ miles over undulating sandy ground, then for 6½ to the small tumulus of Chákhmakli over shallow sands. Thence to 16th mile stony ground is traversed, and after that a salt-hollow. ½ mile from the wells the road ascends and descends again at the wells. 4 miles north of the road and parallel to it there extends throughout the route a rocky ridge 140 to 175 feet high. The strata of this rock are almost horizontal, and each has a distinguishing colour. The wells of Busága are in a broad ravine, with a level bottom of hard clay. There are 7 wells, with fresh water at a depth of 14 feet. Forage and fuel in sufficiency.

(8) Wells of Káraikin, 13½ miles. These lie close together in a shallow ravine at a mile from the foot of the Ust-Yurt. The road to them runs through a broad ravine, which gradually narrows as it nears the foot of the Ust-Yurt, and has a hard clay bottom. There is little fuel or camel forage near the wells, and the water is brackish, and 35 feet below the surface.

(9) Well of Kimir, 18½ miles. One well 210 feet deep. Water abundant, and almost fresh with a slight smell of sulphuretted hydrogen. The road rises to the Ust-Yurt by a tolerably gentle slope not presenting the least difficulty to the movement of troops. Rising on to a height, the road at 11½

miles crosses some undulating ground cut up by shallow rifts, and then runs over even ground to the wells, at which there is some camel forage, but very little fuel.

(10) Well of Usun (Dusembai), $7\frac{1}{2}$ miles. One well 203 feet deep, with a quantity of water of the same kind as at the last well. Road over perfectly level ground. There is some camel forage, but no fuel. This well, like that of Kinir, is remarkable for its depth. Both are excavated in rocky ground, and are 28 inches in diameter.

(11) Well of Cherkezli, $16\frac{1}{2}$ miles. Ground perfectly level, hard and clayey. One well 35 feet deep, with fresh water. Water in small quantity only, quickly exhausted, and requiring several hours to refill. There is some firewood (*saksaul*) and camel forage.

(12) Wells of Ak-Masjid (Ak-Mechet), $3\frac{1}{2}$ miles. Road over level ground. There are 2 wells in a hollow, each 42 feet deep, with very good water. There is neither fuel nor camel forage.

(13) Wells of Iltedje, $12\frac{1}{2}$ miles. Road over level ground, hard and clayey for the first $8\frac{1}{2}$ miles, then sandy and covered with tolerably thick *saksaul*. There are 7 wells 21 feet deep, with a quantity of fresh water. Some are faced with stone, the others with wattle. There is abundance of camel forage and fuel (*saksaul*).

(14) Well of Bailyár, $13\frac{1}{2}$ miles. Road over perfectly level ground. One well, 98 feet deep, with fresh water. Little forage and no fuel.

(15) Well of Kizil-Akhir, $5\frac{1}{2}$ miles. A single well, 126 feet deep, with a large supply of good water. Little forage; no fuel. Ground hard and clayey.

(16) Well of Baichágir, $35\frac{1}{2}$ miles. Road partly over level, partly over undulating ground, but the latter presents no obstacles to movement. At $17\frac{1}{2}$ miles on the road itself is the cemetery of Kára-Mulla-Kámishti. There is a little forage along the road, but it is very bad. Fuel scarcely exists. In fact, the whole stretch between Bailyár and Baichágir is very poor in forage. At the latter there is only one well, 112 feet deep, with tolerably fresh water with a slight smell of sulphuretted hydrogen. The well is lined with stone, and is 28 inches in diameter.

(17) Well of Tabán-Su, 19 miles. First half of road over level ground, rest over an undulating tract. Ground clayey and hard, but with sand overgrown with *saksaul* all round the well, whose depth is 21 feet. The water is brackish and injurious. It contains a large quantity of Glauber salts and lime, and gives colic not only to men, but to animals, which drink it unwillingly.

(18) Pit of Alan, 9 miles. First 4 miles over sandhills covered with brushwood, the rest over hard clay soil. At 2 miles from Alan there are three small descents. The pit is 42 feet in diameter, and has much water in it 21 feet below the surface. Its sides are faced with stone. The water is fresh. Close by are the ruins of a four-sided fort, with sides 140 feet long and tower-like projections. Its walls are about 2 feet thick.

(19) Wells of Irbasán, $18\frac{1}{2}$ miles. First $3\frac{1}{2}$ miles over sand-hillocks covered with prickly shrubs. Then the road ascends a short stony slope, and crosses a perfectly level plain to the wells. Two miles from them there is a slight descent, from which begin sands covered with *saksaul*. At 24 miles the road crosses a ravine, $10\frac{1}{2}$ feet broad and 4 feet 8 inches deep, with perpendicular banks of clay. At 14 miles, $\frac{1}{2}$ mile to the south of the road is a well of fresh water, 28 inches deep, but with only a small quantity of water. From this it no brushwood occurs at intervals along the road to Irbasán. Here there

are 4 wells, $10\frac{1}{2}$ feet deep at most, with little water, and that brackish. All round is plenty of forage and firewood.

(20) Well of Kára-Kuduk, $18\frac{3}{4}$ miles. Road over a level plain, with hard clay soil. Two wells, with bad and bitter water, producing diarrhoea. The wells are lined with wattle. Round them is very little camel forage, and almost no fuel.

(21) Lakes of Iráli-Kochkán, $47\frac{5}{8}$ miles. Although on the road from Kára-Kuduk there is a well called Alibek, it cannot be counted on, as the water in it is of very bad quality, and there is very little of it. From Alibek the road rises up a gentle slope, which is stony in places, and traverses a perfectly level plain over hard clay soil to the Chibin descent of the Chink, $27\frac{5}{8}$ miles from Kára-Kuduk. At this point the desert plateau of the Ust-Yurt ceases. The Chibin descent is very difficult—firstly, on account of its steepness, and secondly, because the road lies on an excessively narrow and stony ridge, along which it is hardly possible to bring guns. From this the road leads for $13\frac{1}{4}$ miles over sandy ground overgrown with *saksaul*, and then through thick reeds to Lake Iráli-Kochkán. At $1\frac{1}{2}$ miles from the latter there is a well, 2 or 3 feet deep, with a small quantity of fresh water. The lakes are bounded by sandhills overgrown with prickly shrubs. The water in them is fresh.

(22) Town of Kangrád, 16 miles. To the 12th mile the road runs through very thick reeds, and at $13\frac{1}{4}$ miles it passes the small village of Airán. $\frac{3}{4}$ mile to the north of it is the village of Ishkenli. From Airán to Kangrád are ploughed fields cut up by irrigation canals. Kangrád is on the Khán-Yáb Canal and on a branch of the Amu, the Táldik-Daria.

(23) Oguz, $16\frac{1}{4}$ miles. The road runs south for 4 miles through ploughed fields to the village of Jenitchka, and then crosses open ground. From the 6th mile thick brushwood begins, which further on turns into a thick wood. At $6\frac{3}{4}$ miles the road approaches the Táldik. At 8 miles to the east of the road and $\frac{3}{4}$ mile from it is seen the village of Kosterek, surrounded by gardens. Farther on, the road traverses a thick forest till the 15th mile, where it again approaches the Táldik. Here reeds begin, through which the road reaches Oguz.

(24) Canal of Kiát-Járgan, $12\frac{1}{4}$ miles. Road through very thick reeds to Kandi-Gel, and thence through brushwood to the canal of Kiát-Járgan, the breadth of which is 70 feet and current rapid. There is no bridge.

(25) Point Kárabaili, $17\frac{1}{4}$ miles. Road through thick reeds, with here and there patches of brushwood.

(26) Town of Khojeili, $20\frac{1}{4}$ miles. For 15 miles the road runs along the bank of the Amu-Daria through thick reed-beds. The rest of the way the road leaves the river and runs through ploughed fields.

(27) Jalangách-Cheganák, $19\frac{1}{4}$ miles. This place is on the bank of the Amu. The road to it runs through reeds and brushwood, and crosses the canals of Niáz-Bai, Suendi, and Saubat-Járgan.

(28) Town of Mangít, $20\frac{1}{4}$ miles. First 6 miles through thick reeds, then over open ground. The point where the reeds cease marks the place to which the floods of the Amu extend in June and July, at which time direct communication between Kangrád, Khojeili, and Mangít ceases. The town of Mangít is on a canal.

(29) Village of Yangi-Bazár, $21\frac{1}{4}$ miles. First 9 miles over open ground, then through brushwood, which becomes thicker at the canal of Atálik-Orna. Crossing the canal of Yangi-Yáb at $10\frac{3}{4}$ miles, the road traverses open ground for $3\frac{1}{4}$ miles, and then enters a tract much cut up by irrigation canals,

which are all planted with trees. At $4\frac{3}{8}$ miles from Yangi-Bazár the road crosses the canal of Klich-Bai-Arna, 189 feet broad, and 4 feet 8 inches deep. For $\frac{3}{8}$ mile beyond it there are sands, and then cultivated land to the Daryálik.

(30) Village of Kiát, 15 miles. Road through cultivation.

(31) Town of Kosh-Kupir, $11\frac{1}{8}$ miles. At $4\frac{1}{8}$ miles the Sháh-Abád Canal is crossed. Up to this the country is richly cultivated; beyond it are sands, which cease at $9\frac{3}{8}$ miles, and then there are gardens up to Kosh-Kupir.

(32) Khiva, $11\frac{1}{8}$ miles. 300 yards beyond Kosh-Kupir, the Kázavat Canal, 105 feet broad, is crossed, and at $5\frac{3}{8}$ miles the Khán's garden of Chanakhchih is passed. The whole country is cultivated right up to Khiva.*

Total length of this route, $54\frac{31}{8}$ miles.

XIII.—ROUTE FROM ALEXANDROVSK TO KHIVA.

(1) Wells of Hanga-Bába, $16\frac{3}{8}$ miles. There is much water in the springs and wells here. Abundance of fuel and forage.

(2) Wells of Kishten, $13\frac{1}{8}$ miles. 6 wells, 21 to 28 feet deep; tolerable water, good forage, fuel (dung).

(3) Wells of Chát, $23\frac{1}{8}$ miles. 5 wells about $10\frac{1}{2}$ feet deep; abundant forage, dung for fuel.

(4) Wells of Berdugen, $16\frac{3}{8}$ miles. 10 wells, but with little water, 28 feet deep; little forage, dung for fuel.

(5) Wells of Beke, $33\frac{1}{8}$ miles. About 20 wells, good water in them at a depth of 14 feet; much forage, dung for fuel.

(6) Wells of Burli, 30 miles. 10 wells, 14 feet deep; much water and abundant forage.

(7) Wells of Sumsa, $53\frac{1}{8}$ miles. 20 wells, with a quantity of good fresh water. Sufficient forage.

(8) Wells of Senek, 8 miles.†

Thence by the preceding route (stages 3 to 32).

Total from Fort Alexandrovsk to Khiva, 676 miles.

XIV.—ROUTE FROM FORT ALEXANDROVSK TO THE FURTHEST POINT OF THE PENINSULA OF BUZÁCHI.

(1) Point Hanga-Bába, $16\frac{3}{8}$ miles. 6 wells, with good fresh water, not more than 7 feet deep; also some springs, with abundance of water. Fair amount of forage and fuel. Road almost the whole way straight and level, with stony bits in places. On the slopes of a ravine near Hanga-Bába there grow about 800 mulberry trees, and there are the ruins of an old mosque. Not far off, in ravines near the wells of Sultán-Epe and Meret, there are also mulberry trees.

(2) Tubejik, 10 miles. Road level and straight, but a little stony in places. Good fresh water in seven shallow wells, with much forage and fuel.

(3) Burli, $13\frac{1}{8}$ miles. Road rises imperceptibly to the hills, and is everywhere straight and level. Burli is in a ravine, with a rivulet of excellent water; fuel and forage.

* *Itinerary and Notes of Topographer Neprintseff.*—Author.

† Lomakin: *The Mangishláq Peninsula*, pages 24 and 25.—Author.

(4) Kunán-Su, $13\frac{1}{2}$ miles. Road for 4 miles in the hills over stony ground, then a steep descent from the hill of Uira, down which for $1\frac{1}{2}$ miles carriages have to be lowered by hand. From the foot of Uira to Kunán-Su the country is marshy in damp weather. There is much water in the 4 wells here, but it is of bad quality. Fuel and forage in sufficiency.

(5) Tuye-Su, 20 miles. Road rises slightly to the well of Chicha-Aktau, then runs along the foot of the hill of that name upon the shores of the Gulf of Kochák, and reaches Us-Auz, where Colonel Rukin's detachment perished in 1870. The road for the first part is covered with small stones and after that is hard. There is a tolerable quantity of water at Tuye-Su in 3 shallow wells, but it is slightly brackish. There is abundance of fuel and forage.

(6) Kochák, $16\frac{3}{4}$ miles. During high winds the Gulf of Kochák frequently rises above its shores, and the road is in consequence marshy in places and cut up by ravines. There are 30 wells at Kochák, 14 feet deep, with a quantity of good water. There is abundance of forage for camels and sheep, but none for horses. Sufficiency of fuel.

(7) Kazba or Airásh, 20 miles. There are no wells, but there is almost always rain water in pools. Notwithstanding the ascent to the hill of Kochák and the descent, $3\frac{1}{2}$ miles long from it, the road is good. Some forage for horses and cattle; much fuel.

(8) Mastek, 20 miles. 40 wells of fresh water, 14 feet deep. Some forage and fuel.

(9) Kizán, 20 miles. 100 wells, deepest of them 35 feet; most of them contain bitter water, but that in the deeper ones is tolerably fresh. Sufficient forage and fuel. Road level, straight, and hard.

(10) Jideli, $23\frac{1}{2}$ miles. Last $6\frac{3}{4}$ miles over sand covered with tamarisk. Its roots, which are near the surface, make the sands good for the passage of guns and carriages. 10 wells of fresh water, with sufficient forage and fuel.

From Jideli, the shore of the Caspian opposite the Buinski Islands is $13\frac{1}{2}$ miles distant, and from the shore there is a route in winter across the ice to the Urál District.

Thus the whole journey from the fort to the shore opposite Buinski Islands is $186\frac{3}{4}$ miles, which can be traversed by infantry and heavy caravans in 12 days and by cavalry in 6.

The road thence to Gurieff across the ice is 190 miles long, with stages as follows:—

(11) Buinski Islands (Baitákh), $26\frac{3}{4}$ miles. No wells, but snow or ice can be melted. Abundance of fuel (reeds) and of forage.

(12) Prorva, on the shore of the Měrtvi-Kultuk, $33\frac{1}{2}$ miles. There is a small rivulet of fresh water, much forage, and some fuel (reeds).

(13) Peninsula of Káraton, $23\frac{1}{2}$ miles. No wells; melted snow or ice must be used. Sufficient forage and fuel.

(14) Bayárdi, $23\frac{1}{2}$ miles. As above.

(15) Mouth of the Emba, $23\frac{1}{2}$ miles. Water, forage, and fuel abundant.

(16) Peninsula of Rakushin, $23\frac{1}{2}$ miles. Fresh water in a river; much grass, fine meadows, and fuel (reeds).

(17) Island of Kagulski (Tagálski), 20 miles. Sufficiency of fresh water forage, and fuel.

(18) Gurieff, over the ice, $16\frac{3}{4}$ miles.

XV.—ROUTES FROM THE TOWN OF KANGRÁD TO THE MĚRTVI-KULTUK GULF.*

Between Kangrád and the Měrtvi-Kultuk there are two roads,—one for pack-animals used by the Kirghiz, the other for wheeled carriage opened out by the merchant Vanushin, who transports the fish of the Amu-Daria on Russian four-wheeled carts drawn by camels. These roads ascend the Ust-Yurt at different places, and join half-way at the wells of Aman-Jul.

The cart road from Kangrád first crosses the former Gulf of Aibugir at the villages of Airán and Kiát, ascends the Ust-Yurt at Adchul, and then runs by Kára-Kuduk, Ak-Kruk, Sunya-Temir, the hill of Jagilgán, and Tandir-Bulák to the Bay of Yaman-Airákhti, a total length of 298 miles. The ascent at Adchul is gentle and easy, as is also the descent to the Caspian by the ravine near the hill of Jagilgán. The ground in the former Gulf of Aibugir is marshy and muddy in spring and autumn, and the road is sometimes submerged by inundations. On the Ust-Yurt the soil is sandy and stony, of sedimentary formation. The plateau rises in a series of gentle terraces to the wells of Aman-Jul half-way, and falls in a similar manner from the wells of Turlu-Gul to the Caspian. The terraces are so low and of such easy slope, that they do not present the least obstacle to movement. *Saksaul* in large quantities is met with at Sunya-Temir and at Isen-Kázak, near which, and especially at the former wells, it forms an *oasis*. *Saksaul* and prickly plants are met with at several other places in small quantities, and reeds, which can also be used for fuel, in the former Gulf of Aibugir and on the shores of the Caspian. There is forage along the whole road, and the part between Aman-Jul and the Caspian abounds in "Jusán."

Beginning from Itibai, $74\frac{3}{4}$ miles from Kangrád, wells are frequently met with all along the route at from 6 to 10 miles apart. They are sometimes single, sometimes in pairs, and in places there are as many as five together. All are faced with wattle, and some have even stone troughs. The water in them is generally good, but the best is at Sunya-Temir, Karimsák, Uiti, Isen-Kázak, Bish-Chengrau, Turlugul, and Tyanke. In the others there is a slight

* Bearing upon this route, the *Moscow Gazette* of the 28th March (9th April) 1884 publishes the following letter from Fort Petro-Alexandrovsk, on the Oxus, under date the 24th February (8th March) 1884:—

Translation.

"On the opening of the navigation of the Caspian Sea, the complement of recruits for the Turkistán Military Circle will not be sent, as heretofore, by way of Orenburg and the Kirghiz Steppe to Kázalinsk and beyond, but by a more convenient, shorter and cheaper route, *i.e.*, from Astrakhan to the Měrtvi-Kultuk, from whence on camels, by a well constructed road, they will in ten days reach the Khivan town of Kangrád, situated almost at the point where the Oxus flows into the Sea of Aral. The distance from Kangrád to Fort Petro-Alexandrovsk can be accomplished in three days in *caïques* up the Oxus. In this manner, instead of thirty days being expended in journeying from Orenburg to Kázalinsk, and twenty-eight days from the latter place to Petro-Alexandrovsk, the new levies and the troops whose term of service has expired will only be on the road from thirteen to fifteen days. This shortening of the route will not only preserve the health of the men, but also be a source of economy to the State.

"The old wells have been cleared out and new ones excavated along the new route *vid* the Měrtvi-Kultuk to the town of Kangrád. Besides, the body of troops destined for the Turkistán Military Circle, who will traverse this route, the 'Russian Goods Transport Company' intend, early in the spring, to despatch from Kangrád, by way of the Měrtvi-Kultuk to Astrakhan, about 200,000 *puds* (7,200,000 lbs.) of Bukhāran raw cotton and silk, for which purpose they have already chartered steamers, which will make several trips every month.

"At the present time the shores of the Měrtvi-Kultuk Bay are attracting natives in considerable numbers, who have settled, together with their flocks, almost near to the Yaman-Airákhti landing-place, and without any directions are preparing for the use of the steamers large stores of fuel = '*saksaul*,' which grows there in great abundance. Owing to the considerable depth of the water in the bay, the steamers will be able to load and unload close to the shore."

mixture of salt or sulphuretted hydrogen, but all is drinkable, the depth being $21\frac{1}{2}$ to $67\frac{1}{2}$ feet, and the water of each being from 12 to 60 cubic feet. At all the wells at least 300 camels can be watered at one time. The only drawback to this road is the waterless stretch of $62\frac{3}{4}$ miles between Adchul and Itibai; but even this can be avoided by ascending the Chink at the Chibin ascent and marching due west by the wells of Irbasán to those of Aman-Jul, thus reducing the waterless stretch to 40 miles; but the road by this latter is not so good as the other, and would require some slight repair for wheeled traffic.

The harbour at the Bay of Yaman-Airákhti is very good, as it is surrounded on three sides by hills, which shield it from the winds. The waves never break within 35 feet of the shore, and 490 feet out the depth of water is 11 feet 8 inches to 14 feet. The principal drawback is want of water and fuel. In winter the inhabitants drink snow water, and for a month in the spring season make use of the water from a large hollow near the beach, which is filled by two springs in the sea itself. These two springs are surrounded by dams, and thus form basins for the melted snow as well. Besides, shallow wells can be excavated in a few places, in some of which there is good water, in others brackish.

The pack-animal road runs from Kangrád to the north of the cart road, joins the latter at Aman-Jul, and is shorter than it by 7 miles. It goes by the Lake of Iráli-Kokchán, the wells of Alibek, Kára-Kuduk, and Irbasán. The soil is good also for wheeled traffic, and there is plenty of fuel and forage, except near the Chibin ascent, where there is no forage. The longest waterless stretch is 40 miles. This road has many advantages over the other, but requires slight improvements in several places, especially at the Chibin ascent.*

XVI.—RECONNAISSANCES OF ROUTES FROM THE AMU TO THE MURGHÁB.

A.—From Chahárjui by Rapatak (reconnoitred by Lieutenant Naziroff).

(1) Well of Karaul, $18\frac{3}{4}$ miles. Road over deep and difficult sands, with salt-hollows in places. One well at Karaul, $17\frac{1}{2}$ feet deep, much water, well lined with *saksaul*; no forage, little fuel (*saksaul*).†

(2) Well of Selim-Toksába, $5\frac{1}{2}$ miles. One well, lined with *saksaul*, $17\frac{1}{2}$ feet deep, fresh water. Road over deep sand. *Saksaul* in small quantities; a little forage.

(3) Well of Eshek-Rabát, 16 miles. One well, 11 feet 8 inches deep, fresh water.‡ If necessary, several more could be dug. Very little forage. Sandy hills on both sides of the road, making it look like a street; they are covered in places with *saksaul*.

(4) Wells of Rapatak, $21\frac{1}{2}$ miles. Little sand on the road and large *saksaul* thickets. 20 wells at Rapatak, $10\frac{1}{2}$ feet deep at most. Any number can be excavated, "almost with the hands."§ Water fresh. Forage.

* Notes on Reconnaissances of the Roads from Fort Petro-Alexandrovsk by Kangrád to the Mértvi-Kultuk, Caspian Sea, by Lieutenant-Colonel Alexandroff of the General Staff.—Author.

† Alikhánoff ascertained that there are 2 wells, 30 feet deep, with hardly enough water for 50 camels.—Author.

‡ Alikhánoff says that there is enough water in this well for from 200 to 300 camels.—Author.

§ The Tekkes of Marv, Bikoff, p. 8.—Author.

(5) Wells of Eddi-Kui (Uch-Aji), $10\frac{3}{4}$ miles. The name means "7 wells," but at present 4 are filled up, and the remaining three, as their name (Uch-Aji) implies, are bitter. Depth 77 feet. There is some forage. Road not very difficult, although worse than that between Karaul and Rapatak, on account of the track not being marked out. There is a fair supply of *saksaul* and forage.

(6) Well of Bugur-Dashik, 32 miles. One well, but it is filled up. There is not much sand on the road. Much *saksaul* and some forage.

(7) Ruins of old Marv, 32 miles. First $5\frac{1}{2}$ miles over sand, rest over hard ground. No *saksaul* or forage.

(8) Fortress of Kaushid-Khán-Kala (Khán-Gechen) 16 miles. Ground level. No forage or *saksaul*.

Total length of road, 152 miles.

Naziroff thinks that this is the best of all the roads from the Amu to the Murgháb, but caravans do not use it on account of the raids of the Arsari and Sárik-Turkumáns.

B.—From Burdálík.

(1) Well of Upukli, $21\frac{1}{2}$ miles. Depth 21 feet; good water.

(2) Well of Kulách, 32 miles. Depth 11 feet 8 inches; water brackish.

(3) Well of Imirzli, 32 miles. Depth 21 feet; water brackish.

(4) Well of Daajik, 32 miles. Depth 35 feet; water tolerable.

(5) Wells of Kára-Boyun, 32 miles. 3 wells, 35 feet deep; a quantity of good water.

(6) River Murgháb, at $10\frac{3}{4}$ miles above Kaushid-Khán-Kala, 32 miles.

Total $181\frac{1}{2}$ miles.

C.—From Kabakli.

(1) Takhti, 32 miles. A sandy hollow, with plenty of water close to the surface and overgrown with *saksaul*.

(2) Well of Yár-Khwája, 32 miles.

(3) Wells of Udemergán, $37\frac{1}{2}$ miles. 3 wells, 56 feet deep; good water in plenty.

(4) Wells of Turt-Kui, $42\frac{3}{4}$ miles.

(5) River Murgháb $26\frac{3}{4}$ miles, and to the first canals $21\frac{1}{2}$ miles.

Total $170\frac{3}{4}$ miles.

At Takhti the road comes out upon the ruins of Daya-Khátin, or, as it is called, the "Tekke Ferry," a distance of 48 miles without water. The reason why the Tekkes choose this point to cross the Amu is because there are here extensive forests of old trees and thick beds of reeds, and there are no Bukháran forts close by, so that they can conceal themselves in the wood and prepare the necessary number of rafts and reed "sals" on which they cross the river with their horses and bring back the cattle they have looted.

By this road the troops of Muhammad-al-Din Khán of Khiva more than once marched on Marv, the last time for the conquest of Sarakhs. At that time the wells of Udemergán and Turt-Kui were excavated and cisterns built, into which the water from the wells was poured for the use of the troops. The campaigns of this Khán lasted from 1845 to 1855.

There is another road from Kabakli to the Murgháb, viz.:—

- (1) Takhti, 32 miles.
- (2) Wells of Yandakli, 86½ miles. Depth 84 feet; water brackish.
- (3) Well of Chelganak, 26½ miles. Depth 56 feet; water good.
- (4) Well of Chashma, 26½ miles. Depth 14 feet; water good and in plenty.
- (5) Mazár-Sheikh-Mansur, on the Murgháb, 26½ miles.

Total 198½ miles.*

D.—From the Town of Khiva.

- (1) Lake of Kára-Kul, formed by the overflow of the Palván-Ata Canal. Road through settled country.
- (2) Second march to Chásil, over ground known as "Kirtán," a mixture of sand and clay, hard and good for marching.
- (3) Third march to Eke-Sazák, at which there is a large, holy tree. Road over shallow sand. All the country up to this is destitute of forage or fuel.
- (4) Fourth march to the well of Ságja. Road over heavy sand, with sandhills 40 feet high. The well is 84 feet deep, has fresh water on both sides of the road, enough for 2 or 3 men, with a corresponding number of animals. There is a little brushwood and grass, which can be used as forage for camels and horses.
- (5) Fifth march to El-Aird over sandy hills covered with *saksaul*. Here a road branches off to the south by the well of Murza to the Tajand and Akhál-Tekke.
- (6) Two camel marches from El-Aird are the three wells of Khán-Kuyu, excavated by order of Muhammad-al-Din at the time of his last campaign against Sarakhs. Their water is abundant and very good. Depth 105 feet. Road over sands, drifted in places.
- (7) To the wells of Dokhkuz-Aji is 1½ marches. There are 7 wells, not far below the surface, with little water, and that so bitter, that camels refuse it. Road over sands covered with *saksaul*.
- (8) Wells of Yázi, 3½ marches. First half march over sands covered with *saksaul*. Then the Uzun-Kir begins, a flat clay plain, destitute of vegetation and extending for 1½ marches. Thence sand covered with brushwood extends to Yázi, where there are 2 wells, with fresh water at a depth of 91 feet. They are considered half-way to Marv.
- (9) Half a march to the two wells of Edda-Kulách, which are 91 feet deep. Water in plenty, but it is bitter and purges.
- (10) Five waterless marches to the well of Chashma, which has abundance of fresh water at a depth of 21 feet. Several other wells could be dug. The road is over sands cut up by salt-hollows, on which in spring and autumn there are rain-water lakes. In summer the Turkumáns cross this stretch with a supply of water for themselves and horses, the camels going waterless.
- (11) One march from Chashma to the large hill of Kára-Burun, seen 10 miles off. The road is over a clay plain covered with rosemary. When the rise of the water bursts the dam of Kaushid-Khán at Marv, the overflow reaches Kára-Burun, and its environs are then cultivated.
- (12) Two marches from it is a grove on the bank of a dry bed of the Murgháb called Keimir. For the greater part of the year there is a lake in

* *The Tekkes of Marv*, Bikoff, p. 8.—*Author*.

the riverbed here, and when it dries up wells are sunk in the bed, and water is found in abundance at a depth of 14 feet. During the floods on the Murgháb this place is cultivated. The road is over a bare clay plain thickly covered with brushwood and with very little sand.

(13) $1\frac{1}{2}$ marches to the hill of Bamush-Tapa on the borders of the Marv *oasis*. Round it are canals, with water from the Murgháb. Road over a clay plain alternating with sands and cultivation.

(14) Kaushid-Khán-Kala, $22\frac{2}{3}$ miles.

This route is considered 24 Turkumán *manzils* (stages), or 464 miles. Caravans usually traverse it in 12 and mounted Turkumáns in 8 days. It has always been considered the highway from Marv to Khiva, and as such has been used by caravans from the most remote times. There is plenty of fuel and forage, and the want of water is felt only in summer. During the rest of the year history has shown that it can be traversed by large armies, for the rain-water lakes remain in even the hottest month.*

XVII.—ELICITED INFORMATION REGARDING THE ROUTE FROM SARAKHS TO MARV.

(1) Wells of Shor-Kala, 3 marches. Road for first march between old dried-up canals and fields formerly cultivated, then across "kirtan" (sand and clay mixed) covered with *saksaul* and rosemary. Near Shor-Kala the road again runs through fields formerly cultivated. Shor-Kala is a ruined Tekke fortress, situated near the dry canal of Shor-Kala-Jár,† in the bottom of which three wells have been sunk. Water is found at a depth of 21 feet, but is not fit for use, being bitter.

(2) Well of Shegitli, 2 marches. Road over sand covered with *saksaul*. Half-way is the dry well of Agar. Parallel with the road and on the right side runs the dry canal-bed of Shor-Kala-Jár, which crosses the road at Agar and then runs parallel to it on the left side and near Shegitli. Besides *saksaul*, there is found along the road a peculiar animal called by the Tekkes "Jairáns' cup." They say that the Jairáns drink rain-water out of cups formed from the leaf of this plant. There are 100 wells at Shegitli, excavated by Persian troops in 1861 during the campaign against Marv; but there is water in only one well now, and it purges.‡ Depth of well 28 feet; depth of water 7 feet.

(3) Tásh-Rabát, one march. Road over the sands of Kuche-Kum between sandhills, which prevent the sand from drifting. Breadth of track from 21 to 35 feet. Sandhills from 14 to 21 feet high and covered with high *saksaul*. The Marvtsi find coal in the Kuche-Kum. It is a great haunt of brigands and a favourite place for attacking caravans. Tásh-Rabát marks the ruins of a large serai built of burnt brick in the end of the sixteenth century. Its reservoir and covered cistern are well preserved, but now there is no water in them.

(4) Hence it is one *manzil* or $18\frac{2}{3}$ miles to the first canals with water in the Marv *oasis*. Half-way are passed the sands of Burun-Kum. There is no fuel. To the right of the road at the edge of the *oasis* lie the ruins of

* *The Marv Oasis and the Roads to it*, by Alikhánoff (in manuscript).—*Author*.

† Supplied from the Tajand.—*Author*.

‡ In their campaign against Marv, the Persians never thought of turning the water of the Tajand into the Shor-Kala-Jár, which would have supplied them almost throughout their march.—*Author*.

Kala-Burun. Beyond this the road enters Kanjikalán, a tract of fields watered by canals from the Murgháb.

From here the road traverses in the next *manzil* the "auls" of Ana-Murád-Káfir, Topáz, Pereng, Bakshi, and Sultániz, each of which is on a canal of more or less importance.*

This road is $133\frac{1}{2}$ miles long, and is called Shor-Kala-Yol.

* *The Marv Oasis and the Roads to it*, by Lieutenant Alikhánoff.—*Author*.

APPENDICES TO CHAPTER II.

APPENDIX II.

RETURN OF TROOPS DETAILED FOR THE AKHÁL-TEKKE EXPEDITION.

Return of Troops.	Battalions.	<i>Sotnias.</i>	Squadrons.	Guns.
TROOPS ALREADY IN TRANS-CASPIA.				
<i>I.—Infantry (21st Division).</i>				
81st Apsheron Regiment of His Imperial Highness The Grand Duke George Micháelovitch—				
1st Battalion	1	...	...	...
13th Company of the 4th Battalion	$\frac{1}{4}$	...	...	...
82nd Daghistán Regiment of His Imperial Highness The Grand Duke Nicholas Micháelovitch—				
3rd Battalion	1	...	...	...
83rd Sámur Regiment of His Imperial Highness The Grand Duke Vladímír Alexandrovitch—				
3rd Battalion	1	...	...	...
84th Shirván Regiment—				
3rd and 4th Battalions	2	...	...	...
<i>II.—Cavalry.</i>				
5th and 6th <i>sotnias</i> Laba Cossack Regiment* ... ..	...	2	...	...
<i>III.—Artillery.</i>				
Half field-battery (horsed), armed with 4-pounder steel B.-L. guns ... ..	...	...	...	4
Half mountain-battery (carried on camels), armed with 3-pounder bronze B.-L. guns ... ..	...	...	...	4
Guns in the various forts:—				
4-pounder steel B.-L. guns ... ..	...	...	...	6
4-pounder bronze M. L. R. guns ... ..	...	...	...	4
4-pounder mountain M. L. guns ... ..	...	...	...	4
Total	$5\frac{1}{4}$	2	...	22
TROOPS ORDERED TO TRANS-CASPIA ON SERVICE.				
<i>I.—Infantry.</i>				
Caucasus Grenadier Division—				
13th† Body Guard Eriván Grenadier Regiment of the Emperor—				
3rd Battalion	1	...	...	...

* Of the Kuban Army.—*J. M. G.*

† 31st in the Russian text—a printer's error.—*J. M. G.*

Return of troops detailed for the Akhál-Tekke Expedition—contd.

Return of Troops.	Battalion.	Sections.	Squadrons.	Guns.
TROOPS ORDERED TO TRANS-CASPIA ON SERVICE—contd.				
<i>I.—Infantry—contd.</i>				
Caucasus Grenadier Division—contd.				
14th Georgian Grenadier Regiment of His Imperial Highness The Grand Duke Constantine Nicholáyevitch—				
3rd Battalion	1	...	...	...
20th Infantry Division.				
78th Navága Regiment—				
4th Battalion	1	...	...	...
79th Kura Regiment of His Imperial Highness The Grand Duke Paul Alexandrovitch—				
4th Battalion	1	...	...	...
80th Kabarda Regiment—				
1st Battalion	1	...	...	...
21st Infantry Division.				
81st Apsheron Regiment of His Imperial Highness The Grand Duke George Micháelovitch—				
14, 15 and 16 companies of 4th Battalion	$\frac{3}{4}$	...	...	...
82nd Daghistán Regiment of His Imperial Highness The Grand Duke Nicholas Micháelovitch—				
4th Battalion	1	...	...	...
83rd Samur Regiment of His Imperial Highness The Grand Duke Vladimir Alexandrovitch—				
3rd Battalion	1	...	...	...
41st Infantry Division.				
161st Alexandropol Regiment of His Imperial Highness The Grand Duke Vladimir Alexandrovitch—				
4th Battalion	1	...	...	...
162nd Akháltsekh Regiment—				
2nd Battalion	1	...	...	...
Caucasus Rifle Brigade.				
Combined Rifle Battalion (one company from each battalion)...	1	...	...	...
<i>II.—Cavalry.</i>				
18th* Pereyaslav Dragoon Regiment of His Imperial Highness The Tsesarévitch				
... ..	...	...	2	...
1st Daghistán Irregular Regiment				
... ..	...	6	...	...
Poltáva* Cossack Regiment				
... ..	...	4	...	...
Taman* Cossack Regiment				
... ..	...	4	...	...
Volga† Cossack Regiment				
... ..	...	2	...	...
<i>III.—Sappers.</i>				
2nd Company 2nd Caucasus Sapper Battalion				
... ..	$\frac{1}{4}$	...	...	...
<i>IV.—Artillery.</i>				
4th Battery 20th Artillery Brigade				
... ..	...	...	...	8
Half of 1st Terek Cossack Horse-Artillery Battery 12, rocket troughs				
... ..	...	...	...	4
Total	11	16	2	12
Grand Total	16 $\frac{1}{4}$	18	2	34

* Of the Kuban Army.—*J. M. G.*† Of the Terek Army.—*J. M. G.*

APPENDIX III.

CIRCULAR NO. 1194, DATED 22ND MARCH (3RD APRIL) 1879, OF THE GENERAL STAFF OF THE CAUCASUS MILITARY DISTRICT.

His Imperial Highness the Commander-in-Chief of the Army has been pleased to order that the following shall be the organisation, administration, and equipment of the troops detailed for service in Trans-Caspia :—

1. The staff of battalions detached from their regiments shall be—

Field Officer Commanding	...	...	...	...	1
Junior Field Officer (entrusted with the administration, may also be a Captain)	...	...	...	...	1
Company Commanders	...	...	...	...	4
Company Officers	...	...	...	...	6
Adjutant	...	...	...	...	1
Paymaster (who is also Quartermaster and Combatant officer)	...	...	...	...	1
Accountant	...	...	...	...	1
Total Field and Subaltern Officers					15

The number of non-commissioned officers and men shall be that of the peace footing,* with the addition of a battalion bugler.† The Combined Rifle Battalion to have 1 battalion and 12 company buglers :—

Classed officials—Surgeon	...	...	...	...	1
Hospital dressers	...	...	...	...	2
Total					3

Non-combatants (non-commissioned officers and men) :—

Clerks	...	...	...	...	4
Company hospital dressers	...	...	...	...	4
Hospital assistants	...	...	...	...	4
Artificers	...	...	...	...	4‡
Train drivers—Non-commissioned officer	...	...	...	...	1
Soldiers	7
Total Non-combatants					24

Roubles.

For current expenditure	150
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The Division of the 18th Pereyaslav Dragoons to have—

Field Officer Commanding	1
Squadron Commanders	...	...	...	...	2
Administrative Officer (Captain or Staff Captain)	...	...	...	...	1
Squadron officers (of whom one is to be Accountant and one Paymaster and Quartermaster)	...	...	...	...	8
Total					12

* 444 combatants.—*J. M. G.*

† Mounted. His horse to be taken from the battalion transport-train.—*Author.*

‡ Armourer, gunstock-maker, carpenter, and blacksmith.—*Author.*

The number of non-commissioned officers and men to be that of the peace strength :—*

Classed officials—Surgeon	...	...	...	...	1
Veterinary surgeon	...	...	...	...	1
Hospital dressers	...	...	...	...	1
					—
			Total	...	3
					—
					<i>Roubles.</i>
For current expenditure	...	...	...	...	150
					—

The four *sotnias* of the Taman and the four of the Poltava Cossack Regiment detailed for service in Trans-Caspia each to have a regimental staff. The *sotnias* are to be at the full peace strength with the full number of officers.

The batteries detailed for service are also to be sent at the full peace strength, and are to take only one line of ammunition waggons.

2. Each battalion is to have a hospital, with 12 beds.† A “sanitary knapsack” is to be taken per company and a surgeon’s case per battalion; also the regulation hospital appliances‡ and medicines and two stretchers per company.

3. The regulation tents are not to be taken to Trans-Caspia, as all troops, infantry, cavalry, and artillery, will be supplied at the ports of embarkation or disembarkation, Baku, Petrovsk, or Chikishliar, with field service tents of a new pattern.

4. Regimental trains to be on the following scale :—

Infantry—A two-horsed cart per company and six four-horsed waggons per battalion, including one for hospital purposes. The horses for these are to be taken from the regimental transport train and attached to the battalion, supplemented by two spare horses.

Cossacks—Only pack animals, 14 horses per *sotnia*.

The Division of Dragoons to take only the four-horsed hospital waggons, and no others, as on arrival at Chikishliar it will be supplied with 34 pack-animals. For the carriage of its baggage to Baku, it will be supplied with the ordinary transport.

The Sapper Company will take one two-horsed company cart and two four-horsed waggons. Horses to be supplied from the transport of the 2nd Caucasus Sapper Battalion, supplemented by one spare horse.

5. Troops to take the following uniform into the field :—

Winter trousers and best great-coats, each man to have two drill blouses (jackets in the dragoons), two pairs of boots and a pair of native shoes, cravat and hood. Every dismounted man a pair of cotton nankeen trousers, not less than three shirts, two pairs of drawers, and three pairs of foot-cloths. Infantry and artillery to have the summer cap-covers, with flaps for the back of the neck.

6. Instead of knapsacks, bags of the Turkistán pattern,§ but made of Russian duck, to be taken. Besides the kettles carried, the men to be supplied

* 354 combatants, 238 troop horses.—*J. M. G.*

† Army Circular No. 260 of 1869.—*Author.*

‡ Army Circular No. 259 of 1876.—*Author.*

§ Army Circular No. 189 of 1869.—*Author.*

with water bottles covered with grey cloth and an entrenching tool each. Bayonet scabbards and "tesaks"* are not to be taken.

7. Officers of the Expeditionary Force need not take full uniform. The forage cap will be worn instead of the *képi*, and the regulation sword replaced by the Asiatic one.

8. All troops to have 8 days' supply of biscuits, the full complement of cartridges, spare parts of rifles and the necessary artificers' tools.

9. Each company, *sotnia*, and squadron to have three large cooking vessels with covers for every 50 or 60 men,—two for cooking soup, the third for gruel. Each company to have two scythes and two sickles, and six of each to be carried with the battalion baggage.

10. From regimental funds there are to be taken for unforeseen expenses per battalion 1,500 *roubles*, for the Division of Dragoons 1,000 *roubles*, per *sotnia* 600 *roubles*. Care is to be taken that on proceeding on service, each company squadron or *sotnia* has with it not less than 500 *roubles* for administrative and messing expenses.

11. Meat and all other stores will be supplied to the troops from date of arrival in Trans-Caspia under the orders of the General Officer Commanding.

With a view to simplifying the system of accounts in the troops taking the field, it is proposed that the books, ledgers, &c., in the annexed list† shall be taken into use and all accounts kept in them.

It must be first remarked that—

(a) Troops ordered to Trans-Caspia only come on the strength of the Trans-Caspian Force from the date of their landing on the east coast of the Caspian, and till that date, all matters are to be referred to the usual authorities.

(b) As the troops of the Trans-Caspian Force, especially in the advance on the Akhál-Tekke, must of necessity be broken up into small detachments at considerable distances apart, to avoid delay in the issue of necessary stores, &c., to troops the Officer Commanding any small force, column, or fort may authorise any requisition or expenditure.

APPENDIX IV.

RESOLUTION OF GENERAL SKOBELEFF *in re* THE LOSS OF SOME CAMELS ON THE 2ND (14TH) MAY 1880.

Why has General Murávieff not reported to me that six days ago 142 old and 7 young camels were driven away from Tekenjik on our bank of the Atrak? Further, that one of our Turkumáns was mortally wounded, all the camel-drivers taken prisoners, and three sent back to bring a ransom of 60 *tomans* per man, besides "maut." These men were of the Karánjik clan of the Jáfarbai tribe. I am surprised that no report has hitherto been made to me of such an important circumstance, and hope such an omission will not occur again. In war the General Officer Commanding must know everything;

* A short sword carried by non-commissioned officers and drummers, and formerly by all infantry soldiers.—*Author*.

† Not reprinted.

in Asia this is still more important and not a trifling matter. Please find out at Chát or at Duz-Olum :—

- (1) Was an escort offered for these camels which have been carried off?
- (2) Did they cross to the left bank of the Atrak of their own accord?
- (3) Were their owners warned by our authorities of probable danger?

If an escort was refused to these Turkumáns, the value of the camels must be at once paid to the owners, and if the latter are prisoners, then to the Elders of their *auls*. There is no use in any case in ransoming the men.

Why General Tergukásoff released the Tekke prisoners is unknown to me! Information must be collected as to whether there are any Tekke prisoners, and where they are. After such raids into the territory occupied by our troops, especially after raids in our rear, I will hang Tekkes, as I did in 1875 and 1876.

APPENDICES TO CHAPTER III.

APPENDIX V.

DESCRIPTION OF THE DÉCAUVILLE LIGHT FIELD RAILWAY.

THE Décauville railway system consists of two light steel rails and trollies or small waggons with platforms, drawn by horses or small locomotives. The rails are firmly connected by five plank sleepers. The transverse section of the rails is that usually adopted, but of smaller dimensions, the length of the rails being $17\frac{1}{2}$ feet, the gauge $20\frac{1}{2}$ inches, the weight of a pair of rails 216·6 lbs., and that of a trolley with platforms 361 lbs. The trolley is formed of a low bottomless box, in which are fixed two axles with wheels 9 inches in diameter provided with flanges. The box itself forms a platform, but if necessary, a larger wooden platform, 7 feet 7 inches long and 3 feet 6 inches broad, can be placed over it. When stores are being carried, this platform can be surrounded by a railing sufficiently high to prevent them falling off. Besides these trollies, there are also passenger carriages with breaks and platforms, with metal cisterns for water.

In laying a Décauville railway, the ground is levelled for a breadth of 7 feet. The principal preparation required is levelling the way over which the rails are to be laid. To avoid steep ascents and descents, embankments and cuttings have to be made; but the railway can be run over such slopes as are usual on a high-road, although they are rather difficult for the railway, as the breaks on the baggage trollies are of insufficient power. It is much better to avoid hills or ravines by a *détour* than to cross them when they are steep.

This railway system has been in existence for five or six years, and has been used abroad for short distances—*e.g.*, in England, for distances of 12 to 15 miles; but the representative of the firm, Count De Los Valles, sees no obstacle to the line being used for much greater distances. To show the advantages of the railway, he brought to the notice of the French Minister of War the important services such a line might render in large camps, and pointed out that the railway was already in use in the French Colonies. Finally, according to the Count, this system was used with much success in the Dutch war in Achin.

APPENDIX VI.

PLAN OF CAMPAIGN.

The date on which the decisive blow can be delivered against the enemy should not necessarily depend on the completion of a railway. The blow will be directed by those circumstances which war alone can decide, but for its delivery, the *minimum* force required should consist of—

4 battalions, 4 squadrons of dragoons, 2 *sotnias* of Cossacks, 16 field-guns and 4 mortars; total 4 battalions, 6 squadrons and *sotnias* and 20 guns.

A force of the same strength, provided with all necessities, is required for the protection of the communications. I have already* had the honor of pointing out what our position would be if we had not the means of acting decisively from Kizil-Arvat.

A railway is necessary to consolidate our position in Central Asia, and to enable us to establish solid reciprocal relations with England. Independently of its military advantages, a line of railway would be of immense use from a commercial, † political, and civilising point of view, the latter in the widest sense of the word. An immediate decision of this question is of the greatest importance for the Expedition.

Figures do not express the value of an Expedition, nor can war be made by any system of minute calculation. Figures have only a relative importance, ‡ and the sole obligation which can be laid upon a Commander is to be as economical as possible.

Turning now to the question as to how the subjugation of the Akhál-Tekke *Oasis* can be most quickly effected, and how our rule in it can best be strengthened, I must first remark that nothing should be risked, in attaining this, by limiting the means employed in any way, *e.g.*, in camels or in the construction of a railway, but the Commander should have full disposal over such means of transport as he thinks necessary, be it by rail, or camels, or wheeled carriage.

The following scheme shows what I consider to be a moderate calculation of requirements, both to insure the safety of the invading force and to enable it to move. In connection with this the question arises as to the time for the march of the Expedition, and as to its way and means.

Active Army.

6 battalions of infantry of 42 files per half-company.

1 company of sappers.

5 batteries (4 field and 1 mountain). §

4 squadrons of dragoons.

2 *sotnias* of Cossacks.

Engineer, artillery, and telegraph parks.

A *sotnia* of Turkumáns (mounted).

Total 6½ battalions, 40 guns, 7 squadrons and *sotnias*, and 3 parks.

A hospital with 500 beds.

Quintuple supply of small-arm cartridges.

Triple supply of artillery ammunition.

Communications.

3 non-mobilised battalions.

2½ mobilised battalions.

16 guns and 4 *sotnias* of Cossacks.

Hospitals at Chikishliar and Tásh-Arvat-Kala.

* Letter to General Aide-de-Camp Obrucheff, No. 4, dated 16th (28th) February.—*Author*.

† Berry's American Company offer to construct a railway at their own expense from Krásnovodsk to join on to the English line at Kandahar. The conditions will be a guarantee of punctuality. A map is appended of the proposed line.—*Author*.

‡ *Plus* or *Minus*.—*Author*.

§ Four or 8 mortars are necessary [witness Khiva on the night of the 28th and 29th May (9th and 10th June) 1873].—*Author*.

Fortified posts :—

Chikishliar.	Aidin.
Chát.	Ushák.
Duz-Olum.	Kizil-Arvat.
Micháelovsk.	Tásh-Arvat-Kala.

Total troops :—

3 non-mobilised battalions.	7 batteries (56 guns).
8 mobilised battalions.	4 squadrons.
7 <i>sotnias</i> .	

Transport.

1. Three thousand Atrak camels working between Chikishliar and Duz-Olum.—Between the 1st (13th) April 1880 and the 1st (13th) April 1881, they could carry to Duz-Olum four months' supply for the active army, and enough for the whole of 1881 for the garrisons of the Atrak line.

Note.—The garrisons of the Atrak line, at present consisting of 6,000 men and 2,000 horses to be reduced to 2,000 men and 500 horses, *i.e.*, 3 non-mobilised battalions and three *sotnias* of Cossacks with non-horsed guns, so as to insure in these posts a supply of provisions for a whole year.

2. Two thousand Mangishlák and 500 Baku camels.—From 1st (13th) July to 1st (13th) September they can carry stores between Micháelovsk and the wells of Aidin. From September 1880 to 1st (13th) March 1881 they will first work between Aidin and Kizil-Arvat and afterwards between Ushák and Kizil-Arvat. From March to August 1881 these and the Atrak camels will carry stores on to Burma. When the depôts at Duz-Olum are emptied, 4,000 camels will work constantly between the wells of Ushák and Burma, so that 4 months' supplies will be accumulated at the latter post for the entire force, leaving 1,500 camels with the troops in their advance on Gok-Tapa.

3. Light field tramway.—From the 1st (13th) September to the 1st (13th) December it will work between Micháelovsk and Aidin (58½ miles). From the 1st (13th) December 1880 it will, as it is replaced by the permanent line, be laid down between Aidin and Ushák (69½ miles).

4. The permanent railway from Micháelovsk to Aidin (58½ miles) will be opened for traffic on the 1st (13th) December 1880.

Advance of the Troops.

1. In April 1880, (*a*) part of the troops on the Atrak line to Chikishliar and to the west coast of the Caspian; and (*b*) occupation of Micháelovsk, to cover the erection of condensers and the building of quays, &c.

2. In June 1880, occupation of Aidin, to cover the depôts and construction of the railway.

3. In September 1880, (*a*) occupation of Kizil-Arvat by 2 battalions with 12 guns and 1 *sotnia* of Cossacks; and (*b*) occupation of the wells of Ushák.

4. In March 1881, concentration at Kizil-Arvat of the remaining troops of the active army, *viz.*, 4½ battalions, 4 squadrons, 1 *sotnia*, and 28 guns.

5. In April 1881, (*a*) advance of the army to Burma; and (*b*) occupation of Kizil-Arvat by a garrison.

6. In September 1881, occupation of Durun and operations against Gok-Tapa and Ashkábád, based on a chain of fortified points at Burma, Durun, and Yegían-Bátir-Kala.

Expenditure.

	<i>Roubles.</i>
Ship's provisions, forage and grain for camels to 1st (13th) May 1882...	2,453,650
12,000 camels	2,400,000
1,000 horses for the tramway	100,000
5,000 spare camel saddles	15,000
Frames (<i>kajdwacs</i>) for pack-saddles	20,000
11,000 fur-coats (<i>poshteens</i>)	55,000
800 <i>kibitkas</i>	240,000
Light field tramway	500,000
100 horsed <i>arabas</i> for the hospitals	13,000
Ropes to fasten pack loads	140,000
<i>Pakals</i> (<i>bochenki</i>)	20,000
Building of quays	60,000
Felts for bedding	30,000
Hire of Turkumán boats	73,000
Postal communication with the Amu-Daria district	35,000
Pay of <i>jigits</i> (guides and scouts)	55,000
Construction of hospital huts, bakeries, baths, &c.	200,000
Condensing <i>apparati</i>	315,000
Erection of the condensers	20,000
Naphtha	10,000
Maintenance of hospitals	130,000
Meat rations in 1880 and 1881	850,000
Special pay of officers	200,000
Forage money	150,000
Ration allowance	180,000
Pay of Commander of the troops from 15th (27th) March 1880 to 1st (13th) January 1882	?
Office allowances	5,000
Fuel allowance at stations on the coast	100,000
Provision of blouses, caps with white covers, sail-cloth, boots, &c.	50,000
Pay of camel-drivers to 1st (13th) January 1882	480,000
Extraordinary expenses	500,000
Unforeseen expenses	500,000
Total	9,899,650

Note.—A larger margin of time is allowed for above, *e.g.*, the permanent railway is presumed to be only opened on 1st (13th) December 1880, and then only to Aidin; and the tramway is assumed to be ready only on 1st (13th) September, and its carrying capacity is diminished by half of what is usually calculated upon. A camel load is calculated only at 6 *puds* (216·6 lbs.) instead of the 8 *puds* (288·8 lbs.) usually allowed in the Caucasus, and abundance of time is allowed for the railway and camel journeys. The construction of the railway in the above-mentioned time to Aidin would alone materially quicken the advance of the Expedition, not to speak of its extension to Kizil-Arvat.

If this were done, time would be saved, and a considerable reduction of expenditure would be effected from diminished outlay for purchase of camels, pay of camel-drivers, quicker departure of the troops when their task is accomplished, and diminution of the cost of stores, &c., purchased in Khiva and Persia for the maintenance of the troops in the *Oasis*.

(Sd.) SKOBELLEFF, *General and A. D. C. to the Emperor.*

APPENDIX VII.

ATTACK ON AKHÁL-TEKKE.

Strength of the troops:—6 battalions of infantry at 42 files per half-company (4,600 men, 120 horses), 1 company of sappers (180 men, 3 horses), 5 batteries, 4 field and 1 mountain (1,000 men, 433 horses), 6 *sotnias* (720 men, 760 horses), Staff (100 men, 100 horses), parks, engineer, artillery, and telegraph (150 men), hospital for 500 beds (200 men and 110 horses) and 100 mounted *jigits*. Total—7,000 men and 1,630 horses.

	Cwt.
With the troops—5-fold supply of infantry cartridges ...	=1,682·56
5-fold do. cavalry do. ...	= 92·16
3-fold do. field artillery ammunition ...	=1,213·44
3-fold do. mountain do. 336 boxes ...	= 322·56
Engineer park, 4,000 shovels, 600 spades, 600 pickaxes, 500 axes, 30 crowbars, 200 <i>puds</i> (7,220 lbs.) of powder, 10 <i>puds</i> (361 lbs.) of dynamite ...	= 352·76
Hospital ...	960
Telegraph park ...	960
Total ...	5,583·48

One month's supply for the army—10,781·44 cwt.

It is proposed to carry out the Expedition in the following manner:—

1. The garrisons of the Atrak posts will be reduced to 2,000 men and 500 horses; these troops to be provided with supplies to the 1st (13th) January 1881.

2. Means of transport:—5,000 Atrak camels from 1st (13th) May, 2,000 Mangishlák camels from 1st (13th) July, and 500 Baku camels from 1st (13th) May; total 7,500 camels, besides 1,000 *arabas* from the 1st (13th) August.

3. 5,500 Atrak and Baku camels working from Chikishliar to Duz-Olum and back in 22 days will make from 1st (13th) May to 1st (13th) September (120 days) 5 journeys, carrying 6 *puds* each line; total 165,000 *puds* (52,800 cwt.).

Two thousand Mangishlák camels will transport to Duz-Olum in July and August in three journeys, 36,000 *puds* (11,520 cwt.).

4. Thus, by the 1st (13th) September there will be at Duz-Olum 201,000 *puds* (64,320 cwt.) of stores.

5. On the 1st (13th) August 2 battalions, 1 *sotnia*, and 8 guns will leave Chikishliar for Khwája-Kala, taking with them two months' supplies (5,373·76 cwt.) and their daily rations for 18 days (1,457·92 cwt.); total 6,831·68 cwt. This with a 5-fold supply of cartridges and 3-fold supply of artillery ammunition, baggage, tents, water, &c., and portions of the hospital and engineer park, will require 4,051 camels.

6. On the 1st (13th) September these 4,000 camels will return to Duz-Olum, and transport up to the 20th October (1st November) to Khwája-Kala, making three journeys a month, in all five journeys, 38,400 cwt. (120,000 *puds*). Deducting from this 728 cwt. for the rations of the garrison and 5,500·48 cwt. of baggage, &c., and parks, there will remain on the 20th October (1st November) 32,171·52 cwt., *i.e.*, rations for the whole army for two months and 20 days.

7. One thousand *arabas* will carry stores to Chát in August, September, and October, making the journey there and back to Chikishliar in 16 days and taking 15 *puds* (541·5 lbs.) as an *araba* load, 28,800 cwt.

8. The remaining 3,500 camels will, in September, work as far as Duz-Olum, and will transport thither 6,720 cwt.

9. On the 22nd September (4th October) these camels will be back at Chikishliar, where the remaining troops destined for the attack on Gok-Tapa (4 battalions, 1 company of sappers, 4 field batteries, and 5 squadrons and *sotnias*), 6,045 men and 1,146 horses, will have been landed.

This force will advance from Chikishliar on the 1st (13th) October, carrying with them 13 days' rations for the march to Duz-Olum (4,416·96 cwt.), which will require 3,552 camels. At Duz-Olum they will take 13 days' supplies for the advance to Khwája-Kala, and will arrive at that place on the 18th or 20th October (30th October or 1st November).

Thence, 5 battalions, 4 or 5 batteries, 5 or 6 squadrons or *sotnias* with 15 days' rations, and all the parks and hospitals, will advance and occupy Burma on the 25th October (6th November).

Leaving 1,000 camels with these troops, the remaining 6,500 camels will return to Khwája-Kala. Working between Burma and Khwája-Kala and making the journey there and back in 8 days, in two journeys, *i.e.*, by the 10th (22nd) November, 78,000 *puds* (24,960 cwt.) will have been transported to Burma, *i.e.*, a two-months' supply for the army. With this quantity of supplies operations against Gok-Tapa may be undertaken.

By the 20th November (2nd December) 6,500 camels will have returned to Duz-Olum and Khwája-Kala, and will transport to Burma—

				Cwt.
By the 1st (13th) December	...	...	...	12,480
„ 20th December (1st January) 1881	...	...	...	12,480
„ 1st (13th) January 1881	...	...	...	12,480
			<hr/>	
		Total	...	37,440

i.e., three months' supply for the whole force.

(10) The *arabas* from Chát will, in October, transport supplies to Duz-Olum. Doing the journey in six days, in five trips they will carry 24,000 cwt., of which 3,580 cwt. will be forage for their own horses, leaving 20,420 cwt. of supplies. In November these *arabas* will transport supplies from Duz-Olum to Khwája-Kala. Making the journey there and back in ten days, in three journeys they will carry 14,400 cwt., of which 3,600 for their horses' forage, leaving 10,800 cwt. of supplies.

Thus for the return march of the troops to the sea there will be the following amount of supplies stored:—

					Cwt.
(a) At Chát	...	...	...	...	4,800
(b) At Duz-Olum	...	...	...	...	6,000
(c) At Khwája-Kala	...	...	...	...	10,800

In the course of December the horses of the *arabas* will eat 3,600 cwt., leaving 7,200 cwt.

Cost of the Expedition.

			<i>Roubles.</i>
(1)	500 Baku camels	... ..	200,000
(2)	5,000 Atrak camels	... ..	500,000
(3)	2,000 Mangishláak camels	... ..	200,000
(4)	1,000 one-horse <i>arabas</i> at 70 <i>roubles</i> per month for five months	... ..	420,000
(5)	Purchase of 100 one-horse <i>arabas</i> for hospitals	... ..	13,000
(6)	Hire of 50 Turkumán boats	... ..	27,000
(7)	3,000 camel saddles	... ..	12,000
(8)	15,000 frames (<i>kajáwas</i>) for pack-saddles	... ..	45,000
(9)	7,000 fur-coats (<i>poshteens</i>)	... ..	70,000
(10)	700 <i>kibitkas</i>	... ..	210,000
(11)	Ropes, 15,000 <i>puds</i> (4,800 cwt.), at 8 <i>roubles</i> per <i>pud</i>	... ..	120,000
(12)	<i>Pakáls</i> (<i>bochenki</i>)	... ..	10,000
(13)	Construction of quays	... ..	50,000
(14)	Felts for bedding	... ..	20,000
(15)	Pay of 100 <i>jigits</i> for ten months, at 40 <i>roubles</i> a month	... ..	40,000
(16)	Maintenance of hospitals at Chikishliar and with the Army of Operation	... ..	130,000
(17)	Meat rations	... ..	229,878
(18)	Extra allowances to officers	... ..	100,000
(19)	Forage allowances to officers	... ..	100,000
(20)	Ration allowances to officers	... ..	100,000
(21)	Allowance of the Commander of the troops	... ..	27,000
(22)	Extraordinary expenditure	... ..	500,000
(23)	Unforeseen expenditure	... ..	500,000
(24)	Fuel allowance at Chikishliar	... ..	30,000
(25)	Pay of camel-drivers	... ..	222,000
(26)	Supply of the troops (<i>maximum</i>)	... ..	1,000,000
(27)	Sea transport	... ..	500,000
Total			<u>5,375,878</u>

APPENDIX VIII.

A Committee of specialists both in railway matters and in Asiatic affairs, assembled to consider the best means of maintaining our military communications in the proposed Expedition against the Akhál-Tekke Oasis, came to the conclusion that if the work was to be finished by the 1st (13th) August, one of the following plans should be adopted:—

(1) The project of Engineer Okuneff is to construct a narrow-gauge line of the Liva type according to the technical conditions sanctioned by the Minister of Interior Communications, the rails and locomotives being ordered abroad and the waggons from home workshops. The gauge is 3' 6"; and if a line of this description were built from Krásnovodsk to Kizil-Arvat (226½ miles), its cost with rolling stock would be 7,000,000 *roubles*, i.e., about 31,000 *roubles* a mile. The amount of rolling stock (10 engines and 300 waggons) would allow of only

one train each way *per diem*, and there might thus be carried *per diem* about 2,560 cwt. of stores.

(2) A light narrow-gauge railway might be laid according to the plan adopted; the Maltseff works and other firms could also assist in the production of the necessary rails and rolling stock. Assuming that it is necessary to carry daily 1,280 cwt. of stores for the troops at the front, 25 engines and 350 waggons would be required to furnish two military and one baggage train for the service of the line daily. The cost of this line on a 3' gauge would be 3,890,000 *roubles* for a length of 153½ miles (230 *versts*), or 25,400 *roubles* a mile.

(3) The narrow-gauge Liva and Novgorod line might be laid down so as to utilise the existing plant of this railway. It is 166½ miles (250 *versts*) long, *i.e.*, about the length of the proposed line to Kizil-Arvat. If it were brought over, a broad-gauge railway might be laid on the Liva and Novgorod section, and if with it its 22 engines and 470 or 500 waggons were brought, four trains could be run each way daily and 2,240 cwt. of stores carried up to the front. Its cost for a length of 153½ miles (230 *versts*) would be, exclusive of the rolling stock (estimated at 800,000 *roubles*) and of the rails (2,400,000 *roubles*), 4,600,000 *roubles*. The rolling stock and rails would have to be borrowed from the Liva and Novgorod Railway.

(4) A broad-gauge line of the European gauge (4' 8") might be laid, and the rails and rolling stock procured by direct order, or by utilising the rolling stock of the Ungen park. Want of time, however, would prevent the stock of the Ungen park being used, as its transport alone would require several months. As far as rails and rolling stock obtained by direct order are concerned, these could be obtained in greater numbers than are required for the Trans-Caspian Railway, and their cost would be approximately the same as if they were borrowed from Russian narrow-gauge* railways, *i.e.*, about 4,600,000 *roubles*. If under these conditions a line of the Russian gauge (5') were constructed, and it were considered necessary to transport daily to the front 2,880 cwt. to 3,200 cwt. of stores, two military trains and two trains for the service of the line (water, fuel, &c.) would be required daily.

(5) Engineer Okuneff has also proposed to construct first a narrow-gauge (3½') tramway, but in such a manner as to permit of its being converted into a railway afterwards. The rails are of the type approved by the Minister of Interior Communications and could be ordered in the Putiloff works, the rolling stock being obtained abroad. If the length of line were reduced to 136½ miles (205 *versts*) by directing it towards Kutol instead of Mulla-Kári, the cost of the railway, with horses, would be 3,612,000 *roubles*, or about 26,550 *roubles* a mile, the price of Russian rails being taken as an average. The daily carrying power would be 2,560 cwt., *i.e.*, about as much as can be carried by the Caucasus Railway.

(6) A light portable narrow-gauge (1'6¼") railway on Décauville's system might be laid down. It consists of rails weighing 3·6 lbs to the running foot, with iron sleepers, which can be used either as a horse-tramway or as a locomotive railway. No rails are at present ready for a line on this system, but they could be got ready at the rate of 2 miles a day, or even more. The price is not known.

(7) Finally, traction engines might be used, as has been done lately with good results in England.

After careful consideration of all the above proposals from all points of view, the Committee came to the conclusion that as very little time could be allowed

* That is ordinary gauge, in our sense of the word.—J. M. G.

for the construction of the line, it would be better to run it from Micháelovsk than from Krásnovodsk, thus diminishing the distance by one-third, or by $91\frac{1}{2}$ miles. Engineer Okuneff, however, considered that Krásnovodsk should be taken as the terminus, and represented to the authorities in the Caucasus that that port presented much greater facilities for the unshipping of stores than Micháelovsk.

As to the question of what gauge should be adopted, it was pointed out that the shortness of time available excluded the possibility of using a narrow-gauge railway, as much delay would be incurred in waiting till the orders had been executed, and afterwards in transporting 128,000 cwt. of plant. The same objection applied to a line of European gauge ($4' 8''$), as several months would be lost in transporting rolling stock of this gauge on platforms over the Russian 5-foot gauge railways. Besides, if a large quantity of plant were ordered in foreign and home workshops, such as those of Maltseff and others, it would be impossible to count with any certainty on the orders being executed within the given time. Finally, the transport of rails and rolling stock from abroad would cause great expense and much loss of time.

With regard to the proposal to take up and transport to Trans-Caspia the rails and rolling stock of the Liva and Novgorod Railway, it was agreed that great delay would be caused by communications between the Finance Ministry and the Railway Direction, and that therefore this project was inadmissible.

A single-line horse tramway would not admit of a sufficient number of trains with *matériel* being sent up during the period of construction. Besides, during the rains horses would have great difficulty in pulling the trains across the marshy salt-hollows of the steppes, and the construction of a road alongside the rails would cause additional expenditure of labour and material.

Lastly, for such a tramway all the plant would have to be ordered, and therefore its completion could not be counted on in the given time. As regards Décauville's narrow-gauge railway, the Committee pointed out that, with its length of $155\frac{3}{4}$ miles, it might become absolutely necessary to lay down a second line, as the carrying power of this system is so small that it would probably be impossible for it to bring up even the *minimum* of 640 cwt. of stores a day to the army. Besides the necessity of having to bring all the plant from France, it had also this drawback, that to prevent the rails becoming damaged, hardly more than $4\frac{1}{2}$ cwt. could be put on each waggon.

If traction engines were used, to carry up to the front the 640 cwt. required daily, no fewer than 74 would be required, and their cost would be about 500,000 *roubles*.* Besides, in addition to the bad quality of the water and other unfavourable conditions, a great disadvantage would be the having to build a number of workshops for the repair of these machines.

Finally, as regards a broad-gauge line with rails and rolling stock ordered direct, the Committee were of opinion that, although it required more plant and the difficulties of construction would be greater, still, in the short space of time at disposal (till 1st (13th) August), a line of this description would be the best. Most of the plant would be ready to hand, the expenses would be smaller, the carrying power would be sufficient, no immediate assignment of large sums would be required, and all the material could be transported across the Trans-Caucasus lines.

* The cost of one traction-engine varies from £600 to £700.—*Author*.

RUGS FOR A LENGTH OF MAIN LINE OF 205 VERSTS (1363 MILES).

	Type No. 2. Norwegian and Irish, narrow-gauge line (3' 4"). Rails 117 lbs. per running foot.	Type No. 3. Pennsylvania of 4' 8 1/2" gauge. Rails 189 lbs. per running foot.	Type No. 4. Russian broad-gauge (5'). Rails 189 lbs. per running foot.
6.1. Mitchell works, gauge 3'.			
6.2 lbs. per running foot.			
Store wagons ... 22 1/4 cwt.	Weight of store wagons ... 320 cwt.	Weight of store wagons ... 102 1/4 cwt.	Weight of store wagons ... 102 1/4 cwt.
Locomotives ... 22 1/4 cwt.	Locomotives ... 320 cwt.	Locomotives 33 tons = 630 cwt.	Locomotives 33 tons = 630 cwt.

would have to be transported to Michalovsk (cwt.).

Fastenings ... 126,360	Rails and fastenings ... 298,800	Rails and fastenings ... 288,720	Rails and fastenings ... 288,720
Sleepers ... 220,400	Sleepers ... 352,800	Sleepers ... 448,440	Sleepers ... 448,440
Locomotives ... 6,440	Locomotives ... 8,240	Locomotives ... 8,240	Locomotives ... 8,240
Wagons ... 7,840	Wagons ... 38,400	Wagons ... 61,440	Wagons ... 61,440
Total ... 360,200	Total ... 698,000	Total ... 738,664	Total ... 816,472

for each type of line (roubles).

6. 600 cubic feet x 205	Earthwork, 450 cubic feet x 205	Earthwork, 800 x 205 x 4 1/2	Earthwork, 800 x 205 x 4 1/2
205 x 40 = 8,200	205 x 40 = 8,200	205 x 40 = 8,200	205 x 40 = 8,200
800,000 x 1 rouble 75	800,000 x 1 rouble 75	800,000 x 1 rouble 75	800,000 x 1 rouble 75
397,875 x 2 = 795,750	397,875 x 2 = 795,750	397,875 x 2 = 795,750	397,875 x 2 = 795,750
4 rails 27,000 x 3 = 81,000	4 rails 27,000 x 3 = 81,000	4 rails 27,000 x 3 = 81,000	4 rails 27,000 x 3 = 81,000
of rails and sleepers ... 445,250	of rails and sleepers ... 445,250	of rails and sleepers ... 445,250	of rails and sleepers ... 445,250
the line, 225 x 300 = 67,500	the line, 225 x 300 = 67,500	the line, 225 x 300 = 67,500	the line, 225 x 300 = 67,500
2,000	2,000	2,000	2,000
6,4750	6,4750	6,4750	6,4750
Telegraph ... 138,000	Telegraph ... 138,000	Telegraph ... 138,000	Telegraph ... 138,000
Workshops and reservoir houses ... 240,000	Workshops and reservoir houses ... 240,000	Workshops and reservoir houses ... 240,000	Workshops and reservoir houses ... 240,000
ply for 12 stations ... 16,000	ply for 12 stations ... 16,000	ply for 12 stations ... 16,000	ply for 12 stations ... 16,000
trunk-lines and switches ... 21,000	trunk-lines and switches ... 21,000	trunk-lines and switches ... 21,000	trunk-lines and switches ... 21,000
ves, 25 x 8,600 = 215,000	ves, 25 x 8,600 = 215,000	ves, 25 x 8,600 = 215,000	ves, 25 x 8,600 = 215,000
350 x 350 = 122,500	350 x 350 = 122,500	350 x 350 = 122,500	350 x 350 = 122,500
Construction of quays ... 150,000	Construction of quays ... 150,000	Construction of quays ... 150,000	Construction of quays ... 150,000
ation, 2 per cent. ... 3,000	ation, 2 per cent. ... 3,000	ation, 2 per cent. ... 3,000	ation, 2 per cent. ... 3,000
First expenses of working ... 10,250	First expenses of working ... 10,250	First expenses of working ... 10,250	First expenses of working ... 10,250
Survey, 205 x 50 = 10,250	Survey, 205 x 50 = 10,250	Survey, 205 x 50 = 10,250	Survey, 205 x 50 = 10,250
Unforeseen expenses, 3 per cent. ... 10,250	Unforeseen expenses, 3 per cent. ... 10,250	Unforeseen expenses, 3 per cent. ... 10,250	Unforeseen expenses, 3 per cent. ... 10,250
4 of material from Nov-gorod to Michalovsk ... 67,720	4 of material from Nov-gorod to Michalovsk ... 67,720	4 of material from Nov-gorod to Michalovsk ... 67,720	4 of material from Nov-gorod to Michalovsk ... 67,720
Total ... 4,571,620	Total ... 6,501,525	Total ... 8,887,347	Total ... 8,718,148

# of line ... 20,537.13	Per verst of line exclusive of rolling-stock and rails ... 4,920.975	Per verst of line exclusive of rolling-stock and rails ... 4,920.975	Per verst of line exclusive of rolling-stock and rails ... 4,920.975
Total ... 4,571,620	Total ... 6,501,525	Total ... 8,887,347	Total ... 8,718,148

s of the different types.

of 14 wagons per diem—	2 trains of 12 wagons per diem—	2 trains of 16 wagons per diem—	3 trains of 16 wagons per diem—
Men ... 1,290 cwt.	Men ... 1,290 cwt.	Men ... 1,290 cwt.	Men ... 1,290 cwt.
not carried, ... 386	Horses ... 144	Horses ... 188	Horses ... 268

within the specified time depends.

s on the punctuality of the man-ers from whom the rails and rolling-are ordered.

extra plant would have to be ordered?

line were prolonged, a new supply of and rolling stock would be required.	A new supply of rolling stock would be required. The rails on hand in Govern-ment establishments could be used.	A new supply of rolling stock would be required. Rails are on hand in Govern-ment establishments.	A considerable quantity of rails and rolling stock are on hand.
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id are could be made of the plant, &c.?

its value.	Rolling stock loses its value as it cannot be used in Russian works. Rails might be handed over to Russian lines and there-fore do not lose value.	Rolling stock loses value by amount re-quired to pay the transport to foreign lines. Rails do not lose in value.	Rails and rolling stock do not lose value, for they can be used on Russian lines.
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r one year.

205 versts x 2,000 roubles = 410,000 roubles.	205 versts x 2,500 roubles = 512,500 roubles.	205 versts x 3,000 roubles = 615,000 roubles.	205 versts x 3,000 roubles = 615,000 roubles.
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Lines of 4' 8 1/2" gauge.	... 102.4 cwt.
per running foot.	... 102.4 cwt.
Type No. 4, Russian broad-gauge (5').	... 102.4 cwt.
	... 102.4 cwt.
Weight of store wagons	... 102.4 cwt.
Ditto locomotives 32 tons = 640 cwt.	... 102.4 cwt.

288,720	...	Rails and fastenings	...	288,720
453,440	...	Sleepers	...	453,440
20,064	...	Locomotives	...	20,064
61,440	...	Wagons	...	61,440
723,664	...	Total	...	723,664
819,472	...	Total	...	819,472

280,000	...	Earthwork, 800 × 205 × 5 =	...	280,000
12,300	...	Clay layer, 205 × 60 =	...	12,300
630,000	...	Sleepers, 815,000 × 2 =	...	630,000
1,647,000	...	Rails, 823,500 × 2 =	...	1,647,000
286,250	...	Chairs and spikes, 78,750 × 3 =	...	286,250
927,700	...	Transport of rails and sleepers =	...	927,700
135,000	...	Laying the line 225 × 600 =	...	135,000
2,000	...	Various stores	...	2,000
50,750	...	Telegraph	...	50,750
298,000	...	Workshops and reservoir houses	...	298,000
115,400	...	Points, turn-tables, and switches	...	115,400
500,000	...	Locomotives, 25 × 23,000 =	...	500,000
600,000	...	Wagons, 600 × 1,200 =	...	600,000
250,000	...	Construction of quays	...	250,000
259,000	...	Administration, 4 per cent.	...	259,000
100,000	...	First expenses of working	...	100,000
15,375	...	Surveys	...	15,375
200,000	...	Unforeseen expenses, 3 per cent.	...	200,000
1,466,673	...	Transport of material from St. Petersburg and Nijni-Novgorod to Michajlovsk	...	1,466,673
8,718,148	...	Total	...	8,718,148
42,527.56	...	Per nest of line	...	42,527.56
5,539,898	...	Total exclusive of rolling-stock and rails	...	5,539,898
27,023.89	...	Per nest of line	...	27,023.89

tons per diem — 5,760 cwt. Stores 5,760 cwt. 2 trains of 15 wagons per diem — 5,760 cwt.

APPENDIX IX.

INSTRUCTIONS FOR THE TEMPORARY COMMANDER OF THE TROOPS OPERATING IN TRANS-CASPIA, APPROVED BY AUTHORITY, 15TH (27TH) MARCH 1880.

1. The Temporary Commander of the Troops in Trans-Caspia has full authority over all the troops, staff, &c., in his district. In the exercise of his functions and also for the decision of questions and other matters beyond his powers, he is subordinate to the Commander-in-Chief of the Army of the Caucasus, from whom he will also receive orders and decisions.

2. He must maintain constant relations with the Commander-in-Chief of the Army of the Caucasus, and take care that the latter is kept informed of all operations carried out and decisions made on his own responsibility.

3. He will also keep up periodical communication with the Commander-in-Chief of the Military District of Turkistán, and inform the latter of all matters of importance to that district in a military or administrative sense.

4. In special cases, when matters which ought to be referred to the Commander-in-Chief of the Army of the Caucasus cannot, without injury to His Imperial Majesty's service, be so referred, he is fully empowered to settle such matters himself, but must report the decision or action taken, and the causes why reference was not previously made.

5. On the termination of active operations, he will address to the Commander-in-Chief of the Army of the Caucasus a report of such operations and of his administrative measures.

6. In the conduct of military operations he is left entirely unfettered, only acting according to the general plan of the campaign and to the orders of the Commander-in-Chief of the Army of the Caucasus.

7. He may on his own responsibility enter into negotiations with the Turkmáns, and must use all measures to obtain a peaceful submission of the nomads.

8. He has the right of communicating direct with the Khán of Khiva and the frontier provinces of Persia on matters connected with the supply of his troops or with the preservation of order on the frontiers of Trans-Caspia, reporting invariably such communications to the Commander-in-Chief of the Army of the Caucasus and, in the case of correspondence with the Khán of Khiva, to the Governor General of Turkistán.

9. He must make detailed inspections of the troops of his army, both of their instruction and equipment, and submit the result of those inspections to the Commander-in-Chief of the Army of the Caucasus.

10. He will divide the troops of his army into columns, &c., according as the operations of the war may render necessary, appoint commanders of those columns, and issue instructions to them.

11. He will nominate heads of departments, and submit such nominations to the Commander-in-Chief of the Army of the Caucasus for confirmation (the nomination of Temporary Commanders does not require such confirmation).

12. He may appoint without reference—1 Commanders of forces detached from the main army for special operations; 2 Temporary Commanders, Commandants, and *Elappen* Commandants in such places and points as he considers necessary; 3 all persons on the Staff or Administrative Staff of the Army, or the establishments depending on it. Such appointments to be notified to the Commander-in-Chief of the Army of the Caucasus.

13. He must take all measures in his power to ensure the troops being in a condition to execute the duties imposed upon them. He must take special care that units are kept up to their full strength, that all unauthorised detachments are forbidden, and that order and discipline are fully preserved.

14. He may relieve all persons under his command from their duties, and send them away from the army.

15. He has the disciplinary powers of the Commander of an Army Corps, and in matters of Military Law he will act according to special instructions appended to this.

16. He will bring to notice and recommend for promotion those who have distinguished themselves or done good service, whether officers, soldiers, members of the different departments, or other officials of local administrations. These recommendations are to be made through the Commander-in-Chief of the Army of the Caucasus, according to existing regulations.

17. For distinguished conduct, he has the right of nominating non-commissioned officers and men to all grades of the Military Order, and such non-commissioned officers and men need not have performed the specific act of bravery under his personal notice nor on the actual field of battle, but may be recommended by the Commanders of Detached Columns, provided that he considers that such immediate reward for distinguished conduct would serve as an encouragement to the rest of the troops.

18. For good and zealous service performed by the natives, he has the right of conferring on them the Medal of all classes for distinguished service, or the various classes of the Military Order.

19. With regard to promotions, transfers, discharges, and retirements among the troops or departments under his orders, he must communicate with the Commander-in-Chief of the Army of the Caucasus, and be guided by the usual regulations.

20. He may send away wounded or sick Generals, Field or Company Officers, or classed officials, or give them permission to leave the army, or go on leave within the limits of the Caucasus Military District; and he can advance pay or allowances to them. In all such cases he will report specially to the Commander-in-Chief of the Army of the Caucasus.

21. He will draw up a detailed list of all the stores, *matériel*, &c., required to enable the troops under his orders to take the field properly equipped. This list will be prepared in the usual form, and will be submitted for approval to the Commander-in-Chief of the Army of the Caucasus.

22. On receiving this requisition, the latter will determine what articles are to be supplied from the Caucasus Military District, and what are to be obtained direct by the Temporary Commander of the troops, and the departments under him.

23. He will also draw up a succinct list of the sums of money required for the necessary expenditure of the troops and departments, and will fix the time at which the sums should be paid over or assigned to the field or local treasure chests within the theatre of war. Besides, he will furnish a list of any extraordinary sums he may require for such expenditure as have not been estimated for in the general administrative plan and which appear to him to be necessary. All these lists are to be laid before the Commander-in-Chief of the Army of the Caucasus.

24. If arrangements have to be made for supplies in the country occupied by the army by the usual methods employed in times of peace, he will have the powers of a Military District Council.

25. In deciding questions of an administrative nature arising in the Staff or departments under his command, he will have also the powers of a Military District Council.

26. In questions of Interior Economy and in the settlement of matters of a nature which could only arise in time of war, he will have the following powers:—

(a) In the theatre of military operations, he may make general or partial requisitions, or may impose contributions on the places occupied by the troops.

(b) He will decide when changes are to be made in the compensation of the rations, and also when wine or other extra rations are to be issued to the troops according to regulation.

(c) He will order the issue of rations to officers when their purchase would be difficult.

(d) He will determine what allowances are to be made for losses in quantity incurred in the transport of food stores when the amount of this loss exceeds that allowed by regulation.

(e) He will fix the price of all articles of food prepared by the troops or in the hospitals.

(f) He will give orders as to what payments may be made in time of war without a list of the details of the sums required being handed in by the recipients, in cases in which circumstances may prevent such lists being prepared.

(g) He will fix the rate of exchange for Russian and local money.

(h) He will decide whether extra issues of clothing may be made, and whether articles may be supplied to hospitals over and above their normal establishment.

(i) He will decide upon all special measures and all special outlay for the transport of his army.

27. If local conditions at any time during active operations should compel recourse being had to methods of supply not laid down in the fixed plan of administration, he will take such measures as seem good to him, but he must, first of all, obtain the consent of the Commander-in-Chief.

28. In extraordinary circumstances, when such consent cannot be waited for without detriment to the service, he will, on his own responsibility, give orders for such measures to be taken, but must at once report the circumstances to the Commander-in-Chief of the Army of the Caucasus, and also state his reasons for not having first referred the matter.

29. An order from him authorising any expenditure absolves the person who expends the money from all responsibility. But if such orders were given at the request of the commander of any detached body of troops, the latter is responsible for the correctness of the facts and estimates, and is accountable for the circumstances to the Temporary Commander of the Troops.

30. He will forward all accounts of the Commissariat or other departments to the Commander-in-Chief of the Army of the Caucasus, with his own remarks thereon. These remarks should explain all orders issued by him on the subject of the accounts, and should also mention the particular condition of the force concerned. The accounts of any extraordinary sums expended by him should be forwarded for final confirmation to the Commander-in-Chief of the Army of the Caucasus.

31. All public functionaries and semi-military authorities and bodies in the Trans-Caspian District are under the orders of the Temporary Commander of the Troops.

32. He must take measures for the preservation of order in all places of the district, and that in the imposition and collection of military requisitions everything is done with order and according to regulation.

33. In places occupied during the advance of the army, he has the following powers:—

(a) He will form in the name of His Imperial Majesty the Emperor a Temporary Administrative Body.

(b) He will give public notice of the military and civil powers confided to him.

(c) He will give the above-mentioned Administrative Body instructions for their conduct, and put at their disposal means for the preservation of order.

(d) He will collect the existing taxes in these places and impose new ones, signifying the contributions *in kind* to be made, and, if he considers it necessary, he may impose fines on the inhabitants.

Approved by the Emperor, and signed by General Aide-de-Camp Count Milutin on the 19th April (1st May) 1880.

APPENDIX X.

INSTRUCTIONS FOR THE GENERAL OFFICER IN TEMPORARY COMMAND OF THE TROOPS IN TRANS-CASPIA FOR HIS GUIDANCE IN MATTERS OF MILITARY JUSTICE.

1. In all matters concerning the assembling, giving instruction to, and confirming the proceedings of Courts of Enquiry, and in all other branches of Military Justice, the Commander-in-Chief of the Troops in Trans-Caspia has the powers of the Commander of a Detached Corps, observing the rules laid down in the following paragraphs.

2. The sentences of Field Courts Martial as authorised by law, and requiring in time of peace, according to Article 1020, Book XXIV of the Military Code, the confirmation of the Emperor, are to be submitted for confirmation to the Commander-in-Chief of the Army of the Caucasus.

3. In cases of a grave breach of discipline, or of serious crimes requiring immediate punishment, the Temporary Commander of the Troops is authorised to confirm the sentences of Field Courts Martial, including those of death, reporting his having done so to the Commander-in-Chief of the Army of the Caucasus.

4. The composition, procedure, sentences, &c., of Courts of Inquiry and Courts Martial held in the Force in Trans-Caspia are regulated by Book XXIV of the Military Code of 1869, second edition, and the special rules for Field Service contained in Section V of the said Code.

5. For the conduct of matters of Military Justice in the Trans-Caspian Force, and preliminary enquiries in Courts of Enquiry, an Assistant Judge Advocate will be placed at the disposal of the Temporary Commander by the Ministry, and also two Military Procurators to conduct enquiries.

6. The Temporary Commander of the Troops in Trans-Caspia has the right of convening Field Courts Martial in any of the corps under his orders, according to the rules laid down in paragraphs 1209 and 1210, Book XXIV of the Military Code of 1869, second edition, and can transfer to the Caucasus Military District any cases which appear to him impracticable of settlement locally with convenience.

7. For the investigation of cases of appeal and protests against decisions of Field Courts Martial held in Trans-Caspia, the Commander-in-Chief of the Army of the Caucasus will establish at Tiflis a Special Court of Appeal with the powers of the Supreme Court of Military Justice. This Court will be guided by the regulations of Article 61, Book XXIV of the Military Code of 1869, second edition. The Temporary Commander of the troops in Trans-Caspia has, however, the right in all such cases of ordering the sentence to be carried into execution, without referring it to this Court.

8. The report required by law of the cases tried by Field Courts Martial or enquired into by the Procurators, and the reports of Regimental Courts up to the conclusion of the campaign, are to be included in the general yearly report, and forwarded to the Caucasus Military District.

APPENDICES TO CHAPTER IV.

APPENDIX XI.

CONTRACT WITH THE MERCHANT V. E. MIAKINKOFF FOR THE SUPPLY OF CAMELS, KIBITKAS AND YULAMEIKAS.

On the 16th (28th) of April 1880, I, the undersigned Colonel Gregory Ivánovitch Ivánoff, of the General Staff, by virtue of authority given to me by the Temporary Commander-in-Chief of the Troops in Trans-Caspia, General Skobelev, A. D. C. to the Emperor, according to paragraphs 26 and 27 of the instructions issued to him, have concluded this contract with the hereditary citizen notable, Vassili Ephimovitch Miakinkoff, merchant of the first guild of Orenburg, for the supply to the troops under the command of the said General Skobelev of camels, *kibitkas*, and *yulameikas*, in accordance, word for word, with the preliminary conditions laid down between him, Miakinkoff, and General Aide-de-Camp Skobelev on the 27th March (8th April) 1880, for the supply of the abovementioned camels, *kibitkas*, and *yulameikas*, as follows:—

1. The camels, in number 6,000 head, will be delivered at the Lower Emba fort on the following dates:—On the 15th (27th) June 1,000 head, on the 15th (27th) July 1,000 head, on the 1st (13th) August 1,000 head, on the 15th (27th) August 1,000 head, and on the 1st (13th) September 2,000 head.

2. The above number of camels will be obtained by the merchant Miakinkoff by purchase, and will be handed over at the Lower Emba fort to the person who may be designated by General Skobelev, A. D. C., to receive and forward them to their place of destination.

3. The camels are not to be younger than 3 nor older than 12 years. They must be strong, healthy, without galls on the back, flanks or feet, without wounds, sores or tumours, good for carrying a load or marching—in short, without any faults or vices which could be objected to by the person appointed to receive them; they must be physically fit to carry a weight of 17 *puds* (613·7 lbs), together with saddles, ropes, &c. and to march easily with this weight a distance of 25 *vershs* (16½ miles) a day. Camels which have only one eye may be received, and also female camels; but the latter only without their young.

4. Each camel must have a perfectly good and suitable pack-saddle, with saddle-cloths of Kirghiz felt. The centre part of the saddle-cloth to be double, and the ends single. The sides are to be of such length and breadth that, when the full load is on the saddle, the body of the camel may be completely protected from immediate contact with the load. The girths and cruppers (for one-humped camels) to be of hair-rope.

5. The above-mentioned camels must be taken over from the contractor as they arrive at the Lower Emba fort. If, by any chance, the camels cannot be brought regularly, or if at the time named for delivery the total stipulated number of camels be offered for delivery together, to avoid disputes between the contractor and receiver, and also to permit of the proper amount of care being taken of the animals, it be a condition that on no day shall fewer than 200 animals be delivered, and that the contractor shall have no claim to insist on more than this number being taken over.

6. The person deputed by General Skobelev to receive the camels is to be the judge of the fitness of the camels for the work.

7. The camels on being received are at once in charge of the receiver, and the contractor is released from any further responsibility with respect to them.

8. The camels which do not arrive in time to join one of the columns formed for the march will be driven with a special column, which will be sent to Krásnovodsk at the expense of the contractor.

Note.—The camels received from the contractor will be formed into six columns of 1,000 head each, if, from detailed reconnaissances of the country, the amount of water at the camping grounds will admit of columns of this strength.

9. To assist the contractor in his contract, he is permitted, if he deems it necessary, to furnish by the respective dates a greater number of camels than that stipulated in paragraph 1. The camels received over and above those stipulated for are to count towards the total of the next batch till 6,000 are furnished, but with this provision that no camel column leaving the Lower Emba fort shall consist of more than 1,100 camels.

10. For each camel brought by the merchant Miakinkoff and taken over from him, with saddle complete, at the Lower Emba fort, shall be paid to him 110 *roubles*; total for 6,000 animals, 660,000 *roubles*.

11. The contractor will also be permitted, if he can do so, to furnish more camels than the 6,000 contracted for, but with this stipulation that the number so furnished shall not exceed 600 head. The payment for these to be at the rate mentioned in the previous paragraph.

12. For every camel not received by the date of departure of the last camel column, 10 per cent. of the agreed price shall be deducted from the earnest-money deposited by the contractor.

13. Out of the number of 6,000 camels contracted for and to be delivered at the Lower Emba fort, 1,000, if General Skobelev, A. D. C., considers it necessary, shall be delivered by the merchant Miakinkoff at Gur'eff or at Astrakhan, on one of the dates named in this contract, for their transport by sea to Krásnovodsk. Of this date the contractor shall be informed by telegram at Orenburg, not less than 60 days beforehand.

14. If, by any chance, there should be required for the troops operating in Trans-Caspia a greater number of camels than those specified in this contract, before the 1st (13th) September, then the supply of these camels, either in monthly batches or in any way stipulated for by Government, shall be entrusted to the merchant Miakinkoff before any other person; but if the price demanded by the said Miakinkoff be considered excessive, then General Skobelev, A. D. C., has full right to offer the contract to any one willing to take it. If, however, Miakinkoff lowers his price to that demanded by this latter person, he shall be given the contract; if not, the contract shall be given to him who offers camels on more favourable terms to the State.

15. The merchant Miakinkoff engages to deliver at Astrakhan 200 *kibitkas* and 1,200 *yulameikas*; the *kibitkas* to have a diameter of 14 feet, and the *yulameikas* of 10 feet 6 inches. One hundred *kibitkas* are to be delivered at Astrakhan by the 15th (27th) July, 50 *kibitkas* and 600 *yulameikas* by the 10th (22nd) August, and the remainder on the 15th (27th) September. The merchant Miakinkoff may furnish one *kibitka* for every two *yulameikas*, but the total number of *kibitkas* furnished must not exceed 400.

16. The *kibitkas* and *yulameikas* are to be made in accordance with the pattern fixed by Colonel Ivánoff and sealed by him, and are to be of good and

serviceable felt, and should have the proper number of ropes. A more detailed arrangement concerning the quality of the felt, the number of openings, and other details of construction of the *kibitkas* and *yulameikas* will be made between Colonel Ivánoff and the merchant Miakinkoff after an inspection of the patterns of *kibitkas* and *yulameikas* prepared for the Orenburg Military District.

17. The extremities of the felts forming the top and sides of the *kibitkas* and *yulameikas* must overlap one another not less than 8·85 inches.

18. The *kibitkas* must have wooden folding doors in two leaves, on hinges, the breadth of the passage being 28 inches. One of the side felts is to be so constructed as to cover this door and overlap the next felt by 8·85 inches.

19. The merchant Miakinkoff is to be paid for each *kibitka* delivered at Astrakhan 200 roubles, and for each *yulameika* 100 roubles; total for 200 *kibitkas* 40,000 roubles, and for 1,200 *yulameikas* 120,000 roubles.

20. Any disputes arising between the person appointed to receive the *kibitkas* and *yulameikas*, and the person appointed by Miakinkoff to hand them over, shall be finally settled by the local authorities.

21. For all camels, *kibitkas*, and *yulameikas* received from Miakinkoff, a receipt shall without delay be given by the receiver, bearing his signature and sealed with his seal, and on it shall be shown the amount of money due to the contractor for the animals or articles supplied. On this receipt being presented at the Orenburg treasury, the money will be paid.

22. In case of a delay in the payment, caused by no fault of the contractor, for the camels, *kibitkas*, and *yulameikas* brought and delivered by him, the military authorities will pay a fine of 1 per cent. per month on all unpaid sums.

23. In token of his sincere intention to fulfil the contract described above, the merchant Miakinkoff, of the first guild, is bound to find security, on the signing of the contract in Orenburg, for the payment of earnest-money to the amount of 10 per cent. of the total value of the animals and articles to be supplied by him, the person thus becoming security to be vouched for, according to law, by the Town Council.

24. The merchant Miakinkoff will receive an advance equal to half the full amount of the contract in security, *rouble for rouble*, in Government or other funds, as allowed by law, or on immoveable property (insured stone-houses, shops, or land). This will be paid to him as he requires it in one or several instalments, and on presentation of the receipts for this security at the treasury.

25. The security found by Miakinkoff will be freed in proportion as he fulfils his contract and presents receipts for the items therein mentioned.

26. The number of the animals and articles contracted for is—6,000 camels, 200 *kibitkas*, and 1,200 *yulameikas* of a certain pattern. This number shall not be diminished and must be taken over from the contractor. In the case of the Expedition against the Turkumáns being abandoned, and there being no further necessity for the whole number of animals or articles, accounts shall be settled by mutual agreement between the Crown and the contractor.

27. The expenses for stamped paper, required to conclude this contract, will be borne by the contractor. This contract is to be held holy and inviolable by both sides. A copy will be given to the merchant Miakinkoff, and the original will be kept in the Staff Office of the Temporary Commander of the Troops in Trans-Caspia.

The original contract is signed on every page as follows:—

- I, Vassili Ephimoff Miakinkoff, citizen and merchant of the first guild of Orenburg, agree to this contract and have received a copy of it.
- I, Gregory Ivánovitch Ivánoff, Colonel of the General Staff, in virtue of the powers delegated to me by General Skobelev, A. D. C., agree to this contract.

APPENDIX XII.

CONTRACT WITH THE MERCHANT V. E. MIAKINKOFF FOR THE HIRE OF 150 KIRGHIZ CAMEL-DRIVERS.

On the 27th March (8th April) 1880, I, the undersigned General Skobelev, A. D. C., Temporary Commander of the Troops in Trans-Caspia, as authorised by paragraphs 26 and 27 of the instructions issued to me as holding that appointment, have concluded the following contract with the hereditary citizen notable, Vassili Ephimovitch Miakinkoff, merchant of the first guild of Orenburg, for the engagement of 150 camel-drivers and their transport to the Lower Emba fort.

1. The camel-drivers hired by Miakinkoff must be trustworthy and healthy men, accustomed to camels, either Kirghiz, Báshkirs, or Tartars, and engaged to serve with the troops operating in Trans-Caspia.

2. These camel-drivers must be sent to the Lower Emba fort on the following dates—15th (27th) June, 15th (27th) July, 1st (13th) August, 15th (27th) August, and 1st (13th) September, *i.e.*, on the same dates on which Miakinkoff has agreed to furnish batches of camels, and in such numbers that with every column of 1,000 camels despatched from this fort, there may be at least 25 camel-drivers.

3. The wages of these camel-drivers and the payment to them of advances is left entirely to the merchant Miakinkoff. The military authorities undertake to carry out and fulfil the contracts entered into by Miakinkoff with the camel-drivers.

4. The following sums will be paid to the contractor—(a) for the payment of advances of 3 months' pay, taking the period of their engagement for 6 months at 25 *roubles* a month, 11,250 *roubles*; (b) for their transport to the Lower Emba fort, at 20 *kopecks* per man and *per diem*, a sum of 2,500 *roubles*.

5. The money not expended in the payment of advances, if the camel-drivers are engaged at less than 25 *roubles* a month, is to be retained by Miakinkoff, as part payment for the camels provided by him. The same is to be done with any part of the 2,500 *roubles* advanced to him as payment for their subsistence on the march to the Lower Emba fort. If the 11,250 *roubles* do not suffice for the payment of the advances, more will be paid to him on account.

6. Miakinkoff is to state in his contract with the camel-drivers that each shall receive, in addition to his pay and during the time he remains in the service, a daily ration of 2 lbs. (1·8 lbs. English) of flour, $\frac{3}{4}$ lb. (.67 lbs. English) of groats, 24 drams of salt, and 1 lb. (.9 lbs. English) of meat, besides $\frac{1}{2}$ lb. (.3 lbs. English) of tea and 2 lbs. (1·8 lbs. English) of sugar *per mensem*. Their pay will be deemed to begin on the day of their engagement, and from that day the subsistence allowance of 20 *kopecks* a day will be paid to them, as laid down in paragraph 4. Rations will be issued to them

from the day of their departure from the Lower Emba fort for Krásnovodsk. This should be entered on their contract.

7. The merchant Miakinkoff will receive the sums on account of payments to the camel-drivers as he requires them from Colonel Ivánoff of the General Staff at Orenburg. This Staff officer is fully empowered to settle all disputes arising and questions not provided for in this contract.

This contract will be held holy and inviolable by both parties.

To these conditions are attached the respective signatures of V. E. Miakinkoff, merchant of the first guild of Orenburg, and of General Aide-de-Camp Skobelev, Temporarily Commanding the Troops in Trans-Caspia.

APPENDIX XIII.

CONTRACT WITH THE MERCHANT V. E. MIKINKOFF FOR THE SUPPLY OF RATIONS FOR CAMEL-DRIVERS.

On the * 1880, I, the undersigned Gregory Ivánovitch Ivánoff, Colonel of the General Staff, authorised by the Temporary Commander of the Troops in Trans-Caspia, have concluded this contract with Vassili Ephimovitch Miakinkoff, hereditary citizen notable and merchant of the first guild of Orenburg. I, Ivánoff, in accordance with the full powers delegated to me by General Skobelev, A. D. C., Temporary Commander of the Troops in Trans-Caspia, have entrusted to *Gospodin* Miakinkoff the supply of the food stores, products, and other articles for the use of the camel-drivers, specified in the list attached to this contract, in which is also shown the quantity and price of each, drawn up approximately on the basis of the prices of the articles on the Middle and Lower Volga, together with their freight to the Lower Emba fort. The total value is approximately 31,064 roubles 25 kopecks.

1. All the articles are to be of good quality. The food stores are to be good, fresh, completely innocuous, and fit for food. The other articles are to be unbroken, in good order, and fit for the use for which they are intended.

2. Miakinkoff undertakes to furnish these articles at the Lower Emba fort by the 15th (27th) June, and to hand them over to the person appointed by Colonel Ivánoff to receive them.

3. The meat supplied is to be exclusively live-stock, sheep and horned-cattle. The sheep and horned-cattle are to be perfectly healthy, unblemished, and able to march along with camels. The weight of the animals furnished for meat rations is to be determined by taking the weights of several sheep and horned-cattle of different sizes and thus striking an average, from which the weight of the meat rations to be counted on from each animal may be determined.

Note.—In deciding the weight of meat available for rations, the head, feet, and the parts of the interior used as food are to be counted at half their weight only; the rest, weight for weight.

4. For the purchase of the articles mentioned in the list, I, Colonel Ivánoff, have to give to Miakinkoff in advance the whole estimated sum of 31,064 roubles 25 kopecks, on security given, rouble for rouble, in Government, or other paper, or on the personal security of others.

* The date has been omitted from the Russian text.—*Rev.*

5. All the articles mentioned in this list are to be delivered by me Miakinkoff, along with an account showing the actual price given by me for each, and not the wholesale prices current on the Middle and Lower Volga, in places where such articles are cheap. To the actual prices must be added the cost of transport of the articles by sea and land to the Lower Emba fort.

6. On Miakinkoff delivering those articles as agreed, I, Colonel Ivánoff, promise to pay him or the person deputed by him the whole sum expended, with an addition of 15 per cent. for his trouble, care, and risk. Any sum remaining over from the 31,064 *roubles* 25 *kopecks* advanced by me to Miakinkoff, in consequence of the articles being cheaper than estimated for, is to be returned at the time of the settling of accounts.

7. In case Miakinkoff fails to furnish any of the articles specified in the list, or if those brought are not approved of, he is bound to produce others, or, in the former case, to pay a fine equal to the cost of the articles, plus 15 per cent., which will be deducted from the security lodged by him.

8. All these articles will not be taken over at the Lower Emba fort at one time, but gradually as they are required, and therefore the custody of all articles until taken over lies with Miakinkoff; but when the last camel-column leaves the fort, all stores, &c., then remaining must be taken away with it.

This contract will be held sacred and inviolable by both sides. One copy remains in possession of me, Colonel Ivánoff, the other in that of Miakinkoff.

*Return of the edible articles and other stores required for the camel-drivers and camel échelons between the Lower Emba and Krásnovodsk.**

		FOR 1,200 MEN FOR 2 MONTHS.		PRICE.		TOTAL.		Remarks.
No.	WEIGHT.		Rou.	Kop.	Rou.	Kop.		
	Puds.	Pounds.						
1. Rye, mixed with wheaten flour	...	3,600	...	1	80	6,480	...	
2. Groats	...	1,350	...	1	80	2,430	...	
3. Salt	...	157	20	...	80	150	...	
4. Beef	...	1,800	...	5	...	9,000	...	
5. Tea	800	1	25	1,000	...	
6. Sugar	...	120	...	8	80	1,056	...	
7. Bags of matting	...	1,030	...	...	25	257	50	
8. Sacks	...	1,030	...	...	50	515	...	
9. For packing tea and sugar	250	...	
10. <i>Pakds</i>	...	400	...	5	...	2,000	...	
11. Kettles	...	150	...	2	...	300	...	
12. Teapots (<i>Samovárs</i>)	...	150	...	3	30	495	...	
13. Large wooden cups	...	500	...	...	55	275	...	

* *Translator's Note.*—I have left the Russian weights here without transposing them into English to give a more correct idea of prices.—J. M. G.

Return of the edible articles and other stores required for the camel-drivers and camel échelons between the Lower Emba and Krásnovodsk—contd.

		FOR 1,200 MEN FOR 2 MONTHS.			PRICE.		TOTAL.		Remarks.
		No.	WEIGHT.		Rou.	Kop.	Rou.	Kop.	
			Puds.	Pounds.					
14. Wooden tea cups	...	1,300	...	...	...	6	78	...	
15. Spoons	...	1,500	...	...	...	1½	22	50	
16. Bread knives	...	150	...	...	...	25	37	50	
17. Iron shovels	} with handles {	...	50	...	...	65	32	50	
18. Pickaxes		...	50	...	...	75	37	50	
19. Axes		...	50	...	...	80	40	...	
20- Painted iron buckets	...	225	...	...	1	10	247	...	
21. Ladles	...	150	...	...	...	40	60	...	
22. Tarred rope	...	2,400 <i>sqj.</i>	200	...	5	...	1,000	...	
23. Ropes for pack-loads	...	...	600	...	4	...	2,400	...	
24. Ropes for halters and reins	...	...	20	...	6	50	130	...	
25. Russian leather (<i>Yuft</i>)	...	...	50	...	22	50	1,125	...	
26. Tanned skins	...	10	...	...	4	...	40	...	
27. Pitched thread	...	...	...	...	...	...	10	...	
28- Troughs	...	60	...	...	3	50	210	...	
29. Oats	...	204 <i>chétverts</i>	...	...	6	...	1,224	...	
30. Iron shovels (ordinary) for Cossacks	...	75	...	...	...	65	48	75	
31. Broad shovels for earth works	...	75	...	...	1	...	75	...	
32. Common iron pickaxes	...	50	...	...	...	75	37	50	
Total	...						31,064	25	

APPENDIX XIV.

MEMORANDUM FROM THE COMMANDER OF THE EXPEDITION TO COLONEL IVÁNOFF
OF THE GENERAL STAFF, No. 99, DATED 28TH MARCH (9TH APRIL) 1880.

To ensure the supply of the troops operating in Trans-Caspia with means of transport, *kibitkas*, and *yulameikas*, I have concluded a contract with Vassili Ephimovitch Miakinkoff, merchant of the first guild of Orenburg, for the supply of 6,000 camels, 200 *kibitkas*, and 1,200 *yulameikas*. Having forwarded to you the preliminary contracts, and appointed you to receive the camels, and to send them to Krásnovodsk, I enclose the following orders for your guidance:—

1. On receipt of this, you are at once to proceed to Orenburg, and there cause to be made, under your personal inspection, a *kibitka* and a *yulameika*, according to the conditions of the contract, taking as your pattern the tents

of the same description made for the troops of the Orenburg Military District, and paying great attention to the quality of the felt and the number of openings in it, and also to the general durability of the whole. The measurements should be such as are specified in the contract. The *kibitka* and *gulameika* prepared under your orders are to serve as models for those to be furnished by Miakinkoff, and therefore they should be sealed with your seal, and sent through Miakinkoff to Astrakhan by the 15th (27th) June to the person deputed by him to collect the tents, whose name you will learn from him.

2. On your arrival at Orenburg, you are at once to conclude a contract with Miakinkoff, agreeing, word for word, with the draft contract, which I have already forwarded to you, and based on the instructions forwarded herewith. You will receive from him the earnest-money advanced on personal security,* as evidence of his intention to fulfil his obligations.

3. According to the contract, Miakinkoff has a right to an advance of half of the entire sum which will be due to him on fulfilment of the contract, on security, *rouble* for *rouble*, in Government or other paper, or immoveable property of the witnesses to the contract; and these papers are to be deposited, upon receipt, in the treasury, as surety for the security brought by Miakinkoff. On Miakinkoff presenting the said security, you are at once to draw from the Orenburg Branch of the Imperial Bank the necessary sum for the advance to him. For this purpose a sum of 410,000 *roubles* has been ordered to be sent from Tiflis to the Orenburg Branch of the Imperial Bank, which may be drawn upon by you for that amount.

4. As Miakinkoff has the right of delivering the camels at the Lower Emba fort in batches, and before the times laid down in paragraph 1 of the contract, you must go in good time to that fort to arrange for the reception of the camels and their despatch to Krásnovodsk.

5. Guided by the conditions of the contract, you must take great care that the animals are really healthy and fit for field service, and have good saddles and saddle-cloths. On being passed, camels are to be branded with the letter Z.†

6. On being passed, the camels are under your charge, and you must pay great attention to the choice of pasture lands for them, and arrange about the necessary guards.

7. To escort the camel columns to Krásnovodsk, and to protect them at the pastures on the Emba, two *sotnias* of Cossacks will be placed at your disposal from the Orenburg Military District.

8. As the camels are received from the contractor, they will be made up into separate columns for despatch to their destination. The number of camels in each must not exceed the number which can be watered at any one camp on the road from the Lower Emba to Krásnovodsk, and also with regard to the quality and quantity of forage. It is desirable that the columns should be as large as possible, as they will thus arrive more quickly at Krásnovodsk, and escorts will be saved. As soon, therefore, as you have enough camels to form a column, you will at once despatch one.

9. Your duties in this respect are—

(a) To tell off the necessary detachment of Cossacks for the escort, and to provide its Commander with instructions for his guidance, in which

* The names of these persons must be telegraphed to me, as also the description of security offered.—*Author*.

† For "Za-Kaspiiski," or Trans-Caspian.—*J. M. G.*

it should be impressed upon him that special attention is to be paid to the care of the camels and their health, and that the men of the escort are not only to accompany the column and prevent raids upon it, but are to help the camel-drivers in watering the animals and taking them to pasture, as there will be only a very small number of camel-drivers with the column. The Commander of the escort and his men are to treat the camel-drivers *kindly* and *humanely*, and spare them when possible; but they must be closely watched, and no departure allowed from the standing orders of the column. The Commanders of Columns should be warned that any carelessness in the performance of their duty in looking after the health of the camels, and especially if sickness breaks out amongst them in consequence, will be punished by Court-Martial.

- (b) The equipment of the escorts with every thing necessary for a steppe campaign, especially with wooden water vessels or *pakúls* for waterless camping-grounds. Although it may be presumed that all the equipment of the *solnias* for the steppe escort will be furnished by the Orenburg Military District, nevertheless in case of omissions you are ordered to ask for assistance from the local military authorities. I request you always to keep in view that from the date of their being put at your disposal, these Cossacks belong to the Trans-Caspian Army, and therefore all responsibility for the efficiency of men and horses lies with you.
- (c) To take measures to ensure having with the camels at the disposal of the drivers a number of buckets or pails and troughs for watering the camels, besides shovels for clearing out wells and ropes. It must not be forgotten that on the Ust-Yurt the water of the wells lies at a considerable depth, some, as for example Kinir, 210 feet, others at even more.
- (d) Although I will order 18 trustworthy guides to be sent to you from the Mangishlák district, in case of necessity you must make your own arrangements for the hire of such men.
- (e) You must furnish the Commanders of Columns with routes, based on our knowledge of the condition of the roads leading to Krásnovodsk, all the details of which will be communicated to you by the Staff of my Force, and on those reconnaissances which will be made for you by Kirghiz or by the local military authorities, and by you personally.

10. From the Staff of my Force, here, in St. Petersburg, you will receive 5,000 *roubles* for all kinds of extra expenditure caused by the service you are employed on, such as office expenses, hire of guides and messengers, purchase of presents for the Kirghiz servants, entertainment of Kirghiz of rank, hire of interpreters, and payment, in case of necessity, for escorts on the steppes, &c., &c., also about 900 *roubles* for your daily expenses, at 5 *roubles* a day, for 6 months, beginning from the date of receiving orders, also 300 *roubles* as forage allowance for 2 riding and 3 draught horses from the 1st (13th) June up to the date on which your special duty ceases. This expenditure is calculated according to the prices current at the Lower Emba fort. These sums will include also money for advances to the camel-drivers, as laid down in the contract with Miakinkoff, 3,800 *roubles*; grand total 10,000 *roubles*. An account must be rendered to me of the expenditure of all these sums. If they do not suffice for the expenses incurred by you on your special duty, you must

send to me in good time for the sums you require. As for the expenses of hiring camel-drivers, and their subsistence on the march from the Lower Emba to Krásnovodsk, you must send to me, as soon after your arrival at Orenburg as possible, an estimate of the probable sum required, showing your calculations.

11. If anything has been omitted in these orders, or if you find any of them incompatible with local circumstances, you must act according to your own judgment, reporting to me the action taken. I must add that as regards your travelling expenses to the Emba, arrangements have already been made by the St. Petersburg District Intendence. I have also notified to the Orenburg Military District authorities your probable early arrival within their limits on special duty, and have asked them to give you every assistance in their power, both in military and civil matters, in the prosecution of your work.

In conclusion, I think I ought to say that on the proper performance of your special duty depends much of the ultimate success of the Akhál-Tekke Expedition. Therefore I count on your warm co-operation, and on your straining every nerve to ensure my troops being provided without delay with means of transport.

Enclosures.—(1) Preliminary contract with the merchant Miakinkoff for the supply of camels, *kibitkas*, and *yulameikas*. (2) Contract with him for the hire of camel-drivers. (3) Authority to conclude contracts with him. (4) Authority to draw money from the Orenburg Branch of the Imperial Bank. (5) An account book for all the sums expended by you.

(Sd.) SKOBELLEFF,

General and A. D. C. to the Emperor.

APPENDIX XV.

DESCRIPTION OF A YULAMEIKA.

The walls of a *yulameika* consist of 30 birch rods tied together in the form of a cross, and two marking the doorway, each rod being 6 feet 10½ inches long, and strengthened in five places with tawed thongs, and three rods instead of wooden door posts.

The top of the *yulameika* consists of 18 straight birch rods, each 4 feet 10½ inches long, which are fastened above by a thin rope into a cruciform roof-piece, 10½ inches long, with its cross-pieces fastened by tawed thongs.

On each roof rod of the *yulameika* a little collar is fixed at its lower end, made of hempen whip-cord of medium thickness, and passing through a hole bored in the rod.

The rods being all put together and set up, the whole is covered on the roof and sides with felt.

To fasten it during wind, each *yulameika* has an iron picket post 21 inches long, with a ring, and a rope 25 feet 8 inches long.

The felt of the *yulameika* is made of Kirghiz wood, and has in it several openings and holes according to the method of manufacture, which, however, do not affect the quality nor general serviceability of the felt. The felt may, therefore, be offered for delivery with patches over these holes and openings, evenly and firmly sewn from the inside; but on the roof there must not be more than three, nor on the sides more than four such patches.

Note 1.—In the sealed pattern *yulameika* there are holes in the sides and roof, which are not thus closed up.

These holes are said not to affect the serviceability of the felt, and are pierced through and not in a slanting direction, in groups together. There may be 10 of such holes in the roof and 9 in the sides; *yulameikas* with a greater number of holes than this will not be received. The size of the patches is not fixed, as this depends on the number and extent of the holes.

The side felts ought to have their upper sides bound with hair-rope, and the roofing-felts should also be sewn round with the same. That part of the latter which rests upon the roof-piece should also be lined with hide.

The entrance should be at one end of a side-felt.

The felt for the side walls should consist of two or three pieces well sewn together, the breadth of each being not less than 5 feet 10 inches. On the roof the number of felts is not defined, as the form is irregular and triangular pieces will have to be added to whole felts.

The edges of the roof-felts of the *yulameika* should overlap one another not less than 4·375 inches, and overhang the side-felts by $17\frac{1}{2}$ to 21 inches on the sides, and at the door the edges of the felt must overlap by $17\frac{1}{2}$ inches.

Each *yulameika* should have a thick hempen or hair rope, 9 feet 4 inches long, at both ends of the side-felt and at the lower corner of the upper felt at all four corners. Besides, each should have 2 hair or hempen ropes, 37 feet 4 inches long, one to bind round the side-rods, and another to fasten round the roof-felts outside, a tanned leather strap, 14 inches long and $1\frac{3}{4}$ inches broad, for repairing damages in the tent framework, and 3 spare rods.

Such a *yulameika* has a diameter of 10 feet 6 inches.

Note 2.—To protect it from moths, the felt of the sealed pattern tent is to be covered with turpentine. Moreover, both the felt and its framework are to be sealed G. I. and V. E. M.

Orenburg, April 16th (28th), 1880.

(Sd.) COLONEL IVÁNOFF AND V. MIAKINKOFF,

Merchant of Orenburg.

Note.—The edges of the side-felts of the *yulameika* should overlap one another from 7 to $8\frac{3}{4}$ inches.

(Sd.) COLONEL IVÁNOFF AND V. MIAKINKOFF.

APPENDIX XVI.

DESCRIPTION OF A KIBITKA.

Interior diameter 14 feet.

1. The wooden part of the walls of a *kibitka* is in three parts (*kiriche*); each part is of wooden lattice work with 19 points, in all 57 points. The length of each rod of the lattice work is from 7 feet to 8 feet 4 inches, and they are fastened, where they cross in 19 or 20 places, by tawed thongs. The rods, which are on each side of the door and at the ends of each part where it is joined to the next one, are of different lengths, from 7 inches to 8 feet 4 inches. The door is placed between two adjacent parts, and is formed of a frame and double folding door suspended on iron hinges (*shalners*). The door-frame is fastened to the walls on both sides by hair or hempen ropes, each 9 feet 4

inches long. The door is 5 feet $4\frac{1}{4}$ inches high and 2 feet and $\frac{1}{2}$ inch to 2 feet $2\frac{1}{4}$ inches wide. The side-walls and door give the *kibitka* an interior diameter of 43 feet 9 inches. The height of the lattice work is 4 feet 8 inches. The top of the lattice work all round is bound together by a hair or hempen rope 49 feet long, and the parts of the lattice work are also united closely by ropes 4 feet 8 inches long, fastened to pickets. These pickets are two in number, each 5 feet 10 inches long and 1,625 inches thick.

2. The roof of the *kibitka* consists of from 60 to 62 somewhat curved rods, each 5' 7" to 5' 10 $\frac{1}{2}$ " long, fastened to the crossed heads of the lattice work by hempen whipcord, passed through holes in the end of the rods. The length of string at each rod is 21 inches. At the top the rods fasten into 60 or 62 holes in a circular roof-piece (*chëgarak*), which has a diameter of 5' 3" to 6' 5". Inside this circle are eight rods crossing one another, slightly bent upwards, and fastened in 12 places at their intersections with thongs. These rods are besides fastened by four little boards, fixed to them in 16 places with tawed thongs.

3. The *kibitka* is covered with felt made throughout of Kirghiz wool, and which, by the method of manufacture, has in it openings and holes, which do not, however, affect the serviceability of the felt. The felt on the *kibitkas* may, therefore, be received with patches over these holes and openings neatly and strongly sewn on on the inside, but on the roof of each *kibitka* there must not be more than 5, nor on its walls more than 6, such patches. The size of these patches is not defined, as it depends on the number and size of the holes.

Note 1.—In the pattern *kibitka* there are holes in the roof and sides, which have not been patched. These openings do not affect the quality of the felt, for they pierce it in groups in a slanting direction. Of such holes there may be in the upper dome (*tunduk*) 4, in the roof (*uzuk*) 14, and in the side-walls 17, but no more. Felts with a greater number of holes in them will not be received.

4. The side-wall felts are to be in two halves, each half to consist of not more than 3 well-stitched felts, the length of each not being fixed. The two halves of the wall are to overlap not less than $17\frac{1}{2}$ inches. The upper side of the felt should be bound with hempen whipcord. The side-felts must be so large as to cover the whole door, and besides overlap one another by not less than $17\frac{1}{2}$ inches. At the upper corners of each half of the walls should be fastened hair or hempen ropes, each 18 feet 8 inches long, four ropes in all, and there should also be a rope, 51 feet 4 inches long, for binding all round the *kibitka*.

5. The roof of the *kibitka* is formed of two-halves of felt, and is so cut as to fit closely on to the roof rods of the halves overlapping one another by $17\frac{1}{2}$ inches. Its size should be such that its felt extends $5\frac{1}{4}$ inches above the "chëgarak," and descends not less than $8\frac{3}{4}$ inches below the top of the side-wall felts. To the upper and lower sides of the roof-felts are fastened hair or hempen ropes, 8 in all, each 11 feet 8 inches long, and used for re-covering the roof when the *kibitka* is pitched. The edges of the upper roof, lower roof- and side-felts are bound with cord. The top dome of the *kibitka* is covered with a special felt (*tunduk*), in the form of a square, with sides 7 feet long, and formed out of two felts, bound round with whipcord and provided with hair or hempen ropes at each corner, 9 feet 4 inches long. The colour of the felt is not determined, but it is stipulated that each *kibitka* should, if possible, be made of felts of the same colour. The hair ropes or hempen whipcords for

fastening the rods should be of the prescribed pattern. A spare supply of 50 rods for every 10 *kibitka* is to be provided, and also one handspike for pitching them.

Note 2.—The felt of the pattern *kibitka* is to be covered with turpentine to preserve it from moths, and both the felt and the wooden framework of the *kibitka* are to be sealed with our seals (G. I.) (V. E. Miakinkoff), Orenburg, April 16th (28th), 1880.

(Sd.) COLONEL IVÁNOFF,

(Sd.) MIAKINKOFF, *Merchant of Orenburg.*

APPENDIX XVII.

CONTRACT WITH A. E. GROMOFF REGARDING THE HIRE OF 5,000 CAMELS.

On the 23rd April (5th May) 1880, I, the undersigned Alexander Yegóroff Gromoff, merchant of the first guild of Tashkand, have concluded this contract with the Administration of the Sir-Daria District, on the basis of the proposals of the Military Governor of that district, authorised by the Governor General of Turkistán through Major-General Trotski, of the Emperor's Suite, according to a cypher telegram, No. 9844, dated 26th March (7th April) 1880, from General Skobelev, A. D. C., as follows:—

1. I, Gromoff, undertake to furnish on hire at Fort Krásnovodsk 5,000 camels with saddles (*chomi*), a soft felt saddle-cloth, and a halter each. The camels are to be of the best breed, from 3 to 12 years of age, able to carry a load of 433·2 lbs. (12 *puds*) each, and make with it a daily march of 16½ miles.

2. On arrival at Krásnovodsk, I, Gromoff, undertake that the camels shall perform military service wherever ordered, till the termination of active operations, on the condition that they shall be kept in the service at least four months.

3. The collection of the camels will be carried out by me, Gromoff, principally within the limits of the General Governorship of Turkistán, in Khiva, and in Bukhára. The collection of camels in other territories is to be decided on by General Skobelev, if I desire it.

4. There shall be a driver (*laucha*) for every 5 camels, and their food and that of the camels shall be provided by me, the contractor.

5. The camels are to be delivered at Krásnovodsk within two months of the signature of this contract, or at Petro-Alexandrovsk within 22 days of that date.

6. The payment for camels is to be 25 *roubles* a month, counting from the day of arrival at Krásnovodsk, for each animal delivered there, payable in arrears. For the journey to Krásnovodsk, I, Gromoff, am to receive 10 *roubles* a month for each camel delivered.

7. I, Gromoff, am always to keep the number of camels, *viz.* 5,000, complete, and the Crown has no responsibility for those which die. If any are lost on the journey to Krásnovodsk from theft or any other cause, the 10 *roubles* are not to be paid to me. Losses must be made good within a month; if not, 50 *roubles* are to be deducted from the sums due to me for every camel not so furnished.

8. On the signature of this contract, I, Gromoff, am to receive, by order of the Governor General of Turkistán, the sum of 25,000 *roubles* from

the Tashkand District Treasury as an advance, on security of an equal sum for which Rosenfeldt, Keller and Pinkhas Abdurahmánoff, merchants of Tashkand, and Gustav Yegóroff Abramson, citizen of Dorpat, are responsible for me. At Petro-Alexandrovsk, on the camels being passed by a Committee and found fit, I, Gromoff, am to receive 60,000 *roubles* from the local treasury, on account of monthly pay. If the Committee does not pass all the 5,000 camels as fit for service, a sum proportional to the number found unfit will be deducted from those 60,000 *roubles*.

9. As in a contract of this kind the total sum I am to receive on the fulfilment thereof cannot be defined, only a 10-*kopek* stamp is put upon this, according to paragraph 25 of the Statute concerning stamped paper, leaving the proper amount of stamps to be put on to the original of the agreement by me when the final amount is determined.

10. This contract shall be held sacred and inviolable by both parties.

11. In all questions not settled in this contract, the common law of the Empire shall decide.

(Sd.) COLONEL A. LOGINOFF,

President of the Provincial Administration.

(Sd.) ALEXANDER YEGÓROFF GROMOFF,
Merchant of the 1st Guild of Tashkand.

(Sd.) P. BOGDANOVSKI, }
(Sd.) A. DEVEL, } *Members.*
(Sd.) A. KHLEBNIKOFF. }

APPENDIX XVIII.

REPORT OF GENERAL AIDE-DE-CAMP SKOBELEFF TO HIS IMPERIAL HIGHNESS THE COMMANDER-IN-CHIEF OF THE ARMY OF THE CAUCASUS.

In accordance with the verbal orders of Your Imperial Highness, I have the honour to lay before you the following report on the proposals I have to make, concerning the preliminary operations of the Akhál-Tekke Expedition:—

1. At once on receipt of Your Imperial Highness' permission to nominate General Murávieff, an order will be sent by telegram to hasten the despatch of provisions to Duz-Olum.

2. The Commander of the Expedition will arrive at Chikishliar in the latter half of April, and at the end of that month at Duz-Olum.*

3. In the beginning of May, Kizil-Arvat and Khwája-Kala will be occupied by four battalions,† taken from the Chát and Duz-Olum garrisons, one field battery now stationed by half-batteries at Chát and Duz-Olum, a mountain battery from the west coast of the Caspian (to be brought over to Chikishliar in the second half of April and be at Duz-Olum by the end of that month), and 2 *sotnias* of Cossacks from those now on the Átrak line; total 4 battalions, 2 *sotnias* and 16 guns.

With this force, two months' supplies will be sent, and the camels conveying them will afterwards work between Duz-Olum and Kizil-Arvat.

* Departure from St. Petersburg, 15th (27th) March; Minsk, 17th (29th) March; Vitebsk, 21st March (2nd April); Moscow, 24th March (5th April); Tiflis, 7th (19th) April; Baku, 20th April (2nd May); Chikishliar, 23rd April (5th May); Chát, 29th April (11th May); and Duz-Olum, 1st (13th) May.—*Author*.

† 1,400 bayonets.—*Author*.

4. To send a levelling party from Kizil-Arvat about the 10th (22nd) May, under proper escort, towards Micháelovsk Bay, to meet a similar party coming from that place. For this purpose, the Micháelovsk post ought to be occupied on the 1st (13th) May by a company of the Krásnovodsk Local Battalion, a section of Cossacks, and 2 guns taken from the stores at Krásnovodsk.

Note.—In the beginning of April men-of-war of the Caspian Flotilla should be placed at the disposal of the Commander of the Expedition in such numbers as he considers necessary.

5. Simultaneously with the occupation of Kizil-Arvat, that is, in the beginning of May, a force should be formed on the southern border of the Khánate of Khiva consisting of 1 battalion, 2 *sotnias* of Cossacks, and 4 guns, to draw off some of the forces of the Tekkes, ensure the arrival of supplies from the Khánate at Kizil-Arvat, and generally to keep up the communication between the Army of the Caucasus and the Amu-Daria.

Notes.—(a) If Khiva and Mangishlák justify the hopes formed with regard to the amount of transport to be got from them, it may be of use to establish a small independent force at Kum-Sebshen, to completely secure the road between Krásnovodsk and the Amu-Daria.

(b) The Turkistán troops from the date of their crossing the Amu-Daria should be under the Commander of the Akhál-Teke Expedition.

6. In the beginning of June, 3,000 Mangishlák camels will arrive at the wells of Kushába,* where they will graze for the rest of this month, under escort of a *sotnia* of Cossacks with rocket stands.

7. By the 1st (13th) July, quays will have been built at Micháelovsk and condensers erected, and the portable field railway laid down (double line) to the wells of Tágir. The transport of supplies by rail to Tágir and thence by 3,000 camels to Kizil-Arvat may then begin.

To cover the finishing of the railway and the camels, a mobile battalion and 2 *sotnias* of Cossacks should be sent to Micháelovsk, and a field battery to Krásnovodsk. All these troops to belong to the Field Army.

8. Thus, from the month of July, stores will be arriving at Kizil-Arvat simultaneously from Khiva, Chikishliar, and Micháelovsk.

9. It is only by such an accumulation of supplies at Kizil-Arvat and at Khwája-Kala that a large force of cavalry can be directed from the Atrak line on both these points, whence constant raids can be made on the nearest settlements of the Tekkes. By the 1st (13th) July, probably, it will be evident how far the permanent railway can be relied upon to help in the decisive blow, and how soon it will be finished. At present it is impossible to form any opinion on this matter, and therefore the date of the termination of the Expedition cannot be approximately fixed. Nevertheless, it is possible to form an idea of what quantity of stores and supplies and what number of troops ought to be transported to Krásnovodsk and Chikishliar, and within what time they should arrive, and also the sums required for the present year, showing the dates by which they should arrive on the east coast of the Caspian as follows :—

During March, April, May and June, there should be transported—

To Krásnovodsk.

To Chikishliar.

A year's supply for the active army, At Chikishliar and on the Atrak
i.e., for 7,500 men; a year's supply of line there are supplies for 6,000 men

* The third stage from Krásnovodsk on the Sári-Kámish Road.—*Author.*

To Krásnovodsk.

grain for the horses of the active army, 3,100 in number, and half a year's supply of hay for the same number of horses, in all 257,125·12 cwt., divided as follows :—

<i>By 1st (13th) April.</i>		Cwt.
Flour or biscuits	...	9,600
Groats	...	3,200
Ship's provisions	...	6,400
Oats or barley	...	27977·6
Hay	...	12,800
Total	...	59977·6

<i>By 1st (13th) May.</i>		
Flour or biscuits	...	38229·76
Groats	...	7429·12
Ship's provisions	...	12,800
Oats or barley	...	48,000
Hay	...	16284·8
Total	...	122743·68

<i>By 1st (13th) June.</i>		
Ship's provisions	...	10404·48
Oats	...	47999·36
Hay	...	16,000
Total	...	74403·84
Grand Total	...	257125·12

Thus by the 1st (13th) July 1880, there will be at Krásnovodsk a year's supply, except hay, for the whole field army up to 1st (13th) July 1881.

Rations for 700 camel-drivers for a whole year—

	Cwt.
By 1st (13th) May	4,032
By 1st (13th) June	4,332
Total	8,064

Rations for 1,000 coolies for five months—

By 15th (27th) April ... 4,800 cwt.

Besides the above there would be required—

By 10th (22nd) April—
3,000 telegraph poles.
100 miles of telegraph wire.

To Chikishliar.

and 2,000 horses,* as follows :—Provisions (flour or biscuits and groats) till 1st (13th) April 1881, oats to 1st (13th) July 1881 (of this quantity, there should be transported to Alexandrovsk and Krásnovodsk supplies for, 1,000 Kirghiz horses and 4,000 camels), 11,200 cwt. ship's provisions till 1st (13th) July 1880. Therefore, by June 1st (13th) there should be transported to Chikishliar ship's provisions to last till 1st (13th) January 1881, total 11,840 cwt.

After that, by 1st (13th) October supplies for the garrisons of the Atrak line till 1st (13th) July 1881 should be sent, *i.e.*, 3 months' supply of flour or biscuits and groats (from 1st (13th) April to 1st (13th) July 1881)=12,160 cwt. and 11,840 cwt. of ship's provisions.

There should also be sent :—

By 1st (13th) May—
300 *kibitkas* = 1,920 cwt.

By 1st (13th) April—
4,000 bedding felts.
2,880 cwt. of ropes.
Firewood and hospital stores.

By 15th (27th) April—
5,000 fur-coats, 640 cwt.

* Based on dates furnished by the authorities of the Army of the Caucasus. Immediately on arrival at Chikishliar, these figures will be verified and a report of the result made to Your Imperial Highness.—*Author.*

To Krásnovodsk.

By 15th (27th) April—
Condensers.

By 1st (13th) May—
Materials for erecting condensers.
Naphtha.

By 1st (13th) May—
500 *kibitkas*, 4,800 cwt.
5,000 camel saddles = 800 cwt.
3,000 frames (*kajávas*) for pack-saddles.
Wood for quays, huts, &c.
Bedding-felts, 1,600 cwt.
Rope, 2,560 cwt.
Firewood.

By 15th (27th) May—
Hospital stores, 3,200 cwt.
Red Cross stores, 3,200 cwt.
Pakáls, 96 cwt.

By 1st (13th) July—
100 *arabas* = 640 cwt.

By 15th (27th) August—
8,000 fur-coats = 1,600 cwt.

In May ... Portable railway

*To Chikishliar.**Transport of Troops.*

In the beginning of June, 1 *solnia* of Cossacks; at the end of June, 1 mobile battalion, 2 *solnias* of Cossacks, 1 field battery—all belonging to the Field Army, and all from the west coast of the Caspian. Besides, in May and June 1,000 coolies from Baku and Astrakhan.

In the second-half of April, mountain battery (with only officers' horses).

By 1st (13th) June, men to bring 3 battalions on the Atrak line up to full strength.

The sums assigned will be required as follows :—

	<i>Roubles.</i>	
		One year's ship's provisions for the Expeditionary Force, 340,000 <i>roubles</i> .
		Transport of them to Krásnovodsk, 40,000 <i>roubles</i> .
By 20th March (1st April)	... 500,000	Transport of a year's rations of flour or biscuits and groats for the Field Army to Krásnovodsk, 43,000 <i>roubles</i> .
By 5th (17th) April	... 150,000	Cost of oats for the Field Army, 355,000 <i>roubles</i> .
By 20th April (2nd May)	... 300,000	Transport of these to Krásnovodsk, 175,000 <i>roubles</i> .
By 20th May (1st June)	... 108,000	Storage of hay for the Field Army and transport of it to Krásnovodsk, 105,000 <i>roubles</i> .
By 10th (22nd) April	... 100,000	Cost of 1 year's rations for 700 camel-drivers and 1,000 coolies, 201,000 <i>roubles</i> .
By 25th April (7th May)	... 101,000	Transport from Chikishliar to Alexandrovsk and to Krásnovodsk of barley for the rations of the camels and horses bought at Mangishlák, 20,000 <i>roubles</i> .
By 15th (27th) March	...	

			<i>Roubles.</i>	
By 15th (27th) May	...	...	Preparation of ship's provisions at Chikishliar for period to 1st (13th) January 1881, 120,000 <i>roubles</i> . Transport of them by sea, 16,000 <i>roubles</i> .	
By 15th (27th) March	...	20,000		
By 15th (27th) May	...	20,000		
By 20th September (2nd October)	...	20,000	Storage at Chikishliar of hay for period to 1st (13th) January 1881, 60,000 <i>roubles</i> . Transport of 3 months' supply of provisions to Chikishliar, 11,000 <i>roubles</i> . Ship's provisions for the troops of the Atrak line for period to 1st (13th) July 1881, 120,000 <i>roubles</i> . Transport of them to Chikishliar, 16,000 <i>roubles</i> .	
By 15th (27th) September	...	...
By 15th (27th) October	...	...
To be placed at the disposal of the General staff as follows :—			Storage of hay at Chikishliar for period from 1st (13th) January to 1st (13th) July 1881, 60,000 <i>roubles</i> . Portable field railway, 500,000 <i>roubles</i> . Harness for the horses to be used on this railway, 15,400 <i>roubles</i> . Condensers, 31,500 <i>roubles</i> . Erection of them, 15,000 <i>roubles</i> .	
By 1st (13th) April	...	300,000		
By 1st (13th) May	...	300,000		
By 15th (27th) May	...	245,000	Rations of 1,000 coolies for 5 months, 150,000 <i>roubles</i> . Cost of 5,000 camels, 500,000 <i>roubles</i> . Cost of 1,000 Kirghiz horses, 100,000 <i>roubles</i> . Preparation of 3,000 telegraph poles, 15,000 <i>roubles</i> .	
By 1st (13th) May	...	...
By 10th (22nd) March	...	...
By 10th (22nd) March	...	300,000	Transport of supplies up the Atrak line on hired camels, 600,000 <i>roubles</i> . 5,000 camel-saddles, 25,000 <i>roubles</i> . Frames (<i>kajawas</i>) for pack-saddles, 20,000 <i>roubles</i> . 13,000 fur-coats, 72,000 <i>roubles</i> . 800 <i>kibitkas</i> , 240,000 <i>roubles</i> . 100 <i>arabas</i> for hospitals, 3,000 <i>roubles</i> .	
By 1st (13th) June	...	300,000		
By 10th (22nd) March	...	...
By 1st (13th) July	...	...	Ropes, 140,000 <i>roubles</i> . Quays, 60,000 <i>roubles</i> . Bedding felts, 30,000 <i>roubles</i> . Hire of 100 Turkumán boats for 5 months, 30,000 <i>roubles</i> . Keeping up of postal communication with the Amu-Dariá district, 30,000 <i>roubles</i> . Pay of 100 <i>Igits</i> for one year; 55,000 <i>roubles</i> .	
By 5th (17th) April	...	...
By 1st (13th) August	...	...
By 15th (27th) March	...	70,000	Construction of hospital huts, 300,000 <i>roubles</i> . Expenses of maintenance of hospitals, 130,000 <i>roubles</i> . Meat rations for one year, 500,000 <i>roubles</i> .	
By 15th (27th) April	...	70,000		
By 15th (27th) March	...	...
By 10th (22nd) March	...	...	Pay of 100 <i>Igits</i> for one year; 55,000 <i>roubles</i> . Construction of hospital huts, 300,000 <i>roubles</i> . Expenses of maintenance of hospitals, 130,000 <i>roubles</i> .	
By 15th (27th) March	...	15,000		
By 1st (13th) June	...	15,000		
By 10th (22nd) March	...	15,000	Meat rations for one year, 500,000 <i>roubles</i> . Construction of hospital huts, 300,000 <i>roubles</i> . Expenses of maintenance of hospitals, 130,000 <i>roubles</i> .	
By 1st (13th) July	...	15,000		
By 10th (22nd) March	...	15,000		
By 1st (13th) June	...	15,000	Meat rations for one year, 500,000 <i>roubles</i> . Construction of hospital huts, 300,000 <i>roubles</i> . Expenses of maintenance of hospitals, 130,000 <i>roubles</i> .	
By 1st (13th) September	...	25,000		
By 1st (13th) September	...	...
By 20th March (1st April)	...	30,000	Meat rations for one year, 500,000 <i>roubles</i> . Construction of hospital huts, 300,000 <i>roubles</i> . Expenses of maintenance of hospitals, 130,000 <i>roubles</i> .	
By 1st (13th) June	...	50,000		
By 1st (13th) October	...	50,000		
By 20th March (1st April)	...	100,000	Meat rations for one year, 500,000 <i>roubles</i> . Construction of hospital huts, 300,000 <i>roubles</i> . Expenses of maintenance of hospitals, 130,000 <i>roubles</i> .	
By 1st (13th) May	...	200,000		
By 1st (13th) July	...	100,000		
By 1st (13th) September	...	100,000	Meat rations for one year, 500,000 <i>roubles</i> . Construction of hospital huts, 300,000 <i>roubles</i> . Expenses of maintenance of hospitals, 130,000 <i>roubles</i> .	

	<i>Roubles.</i>		Extra pay of officers, 200,000 <i>roubles</i> .
By 10th (22nd) March	... 100,000	{	Forage allowance, 150,000 <i>roubles</i> .
By 1st (13th) May	... 200,000		Ration allowance, 180,000 <i>roubles</i> .
By 1st (13th) June	... 260,000		Allowance to Commander of the Expedition
			till 1st (13th) January 1881, 30,000 <i>roubles</i> .
By 5th (17th) April	... 50,000	{	Extraordinary expenditure, 250,000 <i>roubles</i> .
By 1st (13th) June	... 200,000		Unforeseen expenditure, 250,000 <i>roubles</i> .
By 1st (13th) August	... 256,000		Office allowance, 6,000 <i>roubles</i> .
By 10th (22nd) March	... 40,000	{	
By 1st (13th) May	... 40,000		Fuel allowances, 400,000 <i>roubles</i> .
By 1st (13th) July	... 150,000		
By 1st (13th) September	... 170,000	{	
By 20th March (1st April)	... 20,000		Pay of camel-drivers to 1st (13th) January
By 1st (13th) May	... 40,000		1881, 224,000 <i>roubles</i> .
By 1st (13th) June	... 100,000		
By 1st (13th) September	... 64,000		

The total, therefore, required for 1881 is 7,207,000 *roubles*, on the following dates :—

	<i>Roubles.</i>
10th (22nd) March	... 1,160,000
15th (27th) March	... 185,000
20th March (1st April)	... 650,000
1st (13th) April	... 300,000
5th (17th) April	... 440,000
10th (22nd) April	... 100,000
15th (27th) April	... 70,000
20th April (2nd May)	... 300,000
25th April (7th May)	... 101,000
1st (13th) May	... 880,000
15th (27th) May	... 401,000
20th May (1st June)	... 108,000
1st (13th) June	... 680,000
1st (13th) July	... 637,000
1st (13th) August	... 259,000
1st (13th) September	... 659,000
15th (27th) September	... 167,000
1st (13th) October	... 50,000
15th (27th) October	... 60,000

No. 16, St. Petersburg, } (Sd.) SKOBELEFF,
7th (19th) March 1880. } General and A. D. C. to the Emperor.

APPENDIX XIX.

REPORT ON THE TRIAL OF TRACTION-ENGINES.

In regions with a small water-supply, traction-engines can render little service for the following reasons. Each traction-engine can take with it 337·5 gallons of water in its tender, and 202·5 in its boiler; and this quantity suffices for 2½ hours' journey, or 8 miles, for during each mile some 67 to 68 gallons of water are consumed. The expenditure of fuel, supposing the engine to burn naphtha, is about 12 lbs. a mile (8 pounds a *verst*). Thus on a line where it is proposed to organise a service of road-engines wells should be sunk at every 6½ miles as watering stations, otherwise a supply of water over and above that taken in the tender must be carried. Fuel, too, in sufficient quantities would have to be collected at the stations, as will be explained further on.

Hence it follows that for a waterless stretch of 26½ miles a traction-engine would require to carry with it no less than 1,836 gallons or 18,411 lbs. of water. Besides, in warm weather, a much larger supply of water is required on account of the evaporation, and therefore the above figures would have to be increased by at least 20 per cent. Thus for a waterless stretch of 26½ miles a traction-engine could only draw the water it requires, and nothing else.

If it were proposed to organise on a line $153\frac{1}{2}$ miles (230 *versts*) long and well supplied with water a service of traction-engines of sufficient power to draw 192 cwt. (600 *puds*) of stores for the army, and to travel $26\frac{2}{3}$ miles (40 *versts*) a day, the following measures would be necessary :—

1. To provide a water-supply at 23 points, 12 of which would also be fuel depôts.
 2. The service of the engines should be so organised, that each would travel $13\frac{1}{2}$ miles (20 *versts*) to the next fuel depôt and back in the same day, making a total of $26\frac{2}{3}$ miles (40 *versts*) a day.

3. For a complete journey over the whole line eleven traction-engines would be required, and for three journeys a day 33 engines, *i.e.*, enough to carry in the first case 192 cwt., and in the second 576 cwt. of stores a day, giving in a month 17,280 cwt. of stores.

4. There should not be fewer than 16 spare engines, giving a total of 49 for a complete organisation. In consequence of the bad quality of the water and other circumstances unfavourable to traction-engines in the desert, 50 per cent. of these engines would be constantly under repair, *i.e.*, 8 of them would be in process of cleaning, and 17 would be undergoing extensive repairs. The total, therefore, required to organise such a service would be 74 engines, the cost of which would be 444,000 to 518,000 *roubles*, allowing 6,000 to 7,000 *roubles* for each.

If unfavourable weather or hostile raids caused no interruption to traffic, it is evident that with a line $153\frac{1}{2}$ miles long and a triple supply of engines 17,280 cwt. of stores can be transported per month. But from these figures must be deducted 3,840 cwt. for fuel requiring transport, thus reducing the total carrying power to 13,440 cwt.

To this must be added that, to ensure regularity of service at various points, large and small workshops, with workmen and guards, would be required; and this again would necessitate the transport of food for the men and of material for the workshops.

APPENDIX XX.

LETTER FROM GENERAL SKOBELEFF, A. D. C., TO MAJOR-GENERAL MICHAEL ALEKSAIYEVITCH ZINOVIEFF, COMMANDING THE 3RD GUARD AND GRENA-DIER ARTILLERY BRIGADE, No. 145, DATED TIFLIS, 21ST APRIL (3RD MAY) 1880.

It is very possible that, during the present Expedition, I may have to prepare the attack on Tekke fortresses by a powerful artillery fire. On account of the want of wood for ladders and the difficulties of transport, it is most important for me to know how far our field guns can be counted upon to produce in the mud walls breaches of such dimensions and character as to enable these works to be easily carried by escalade without storming ladders.

I therefore write to you as a specialist, and as one who understands the character of steppe forts, and who has already proved, under the walls of Jizák that such walls can be breached by field guns, for a reply to the following questions :—

- (1) By what means and with what guns can a breach of the required character be produced, supposing the battery to be placed at 700 yards from the wall?
- (2) What should be the approximate expenditure of 4-pr. and 9-pr. ammunition in such an operation?
- (3) How much time would it require?
- (4) How much sooner could a breach be produced if the battery were placed from 450 to 350 yards from the wall?

By answering these questions you would greatly oblige me. I should add that I shall have with me 32 light and 4 heavy field guns of new pattern, and 4-pr. guns of the old pattern.

APPENDIX XXI.

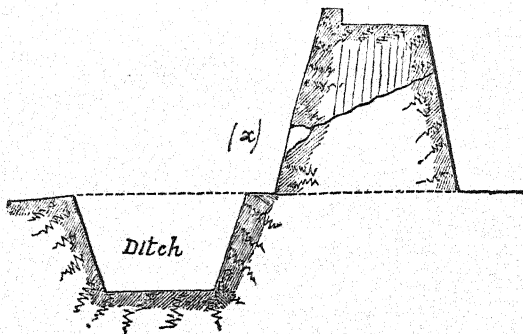
LETTER FROM MAJOR-GENERAL ZINOVIEFF, COMMANDING THE 3RD GUARD AND GRENADIER ARTILLERY BRIGADE, TO MICHAEL DMITRIYEVITCH SKOBELEFF, No. 837, DATED WARSAW, 8TH (20TH) MAY 1880.

I have the honour to reply to your letter of the 21st April (3rd May), as follows:—

Our light, and especially our heavy* guns, are powerful weapons for breaching the walls of steppe forts. Their only drawback in this matter is the fact that the charge is too large for breaching purposes, as it gives a very high initial and terminal velocity, although for field service these high velocities are the most valuable qualities of the guns. The shells penetrate too deeply in the walls, thus paralysing their destructive effect. In the light guns the bursting charge is $\frac{1}{2}$ lb. This difficulty can, however, be got over, and I have succeeded in breaching a wall with 12-pr. plugged shells (without bursting charge) with the same terminal velocity. It is only necessary to act upon a system.

I ask Your Excellency's permission to enter into this question in more detail.

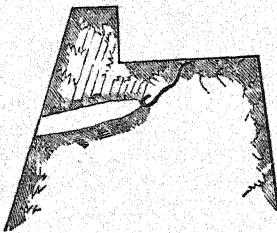
The best means, *i.e.*, the means necessitating the least expenditure of iron and powder, of breaching a clay wall, would be the following:—A horizontal



cut must be made first in the bottom part of the wall, its length depending upon the required breadth of the breach and its depth being about 21 inches (x in profile). Then, by making vertical cuts in the upper part of the wall above the horizontal one, the wall by its own weight falls into the ditch, forming an excellent breach. But to make such a horizontal cut is impossible with guns of high

terminal velocity, as the shells penetrate 14 feet or more into the wall, and, bursting inside it, cannot throw any earth out of the hole thus made, and the wall, though much shaken, probably does not fall down. There are two ways of avoiding this—

- (1) To strike the wall about a couple of feet, or even less, below the base of the parapet. In this case the shell, however



deep it may penetrate by its burst (and even by its strike), destroys some of the parapet and the *terreplein*, the earth from which, as in the case of breaching by cuts, falls into the ditch. After cutting down the parapet, it is necessary to cut the wall down from the top, constantly repeating the same operation, and the mud falls down the slope thus made into the ditch. I used this method in breaching the walls of Jizák, which were 35 feet high and 28 feet thick, as I had no shells with

bursting charges to breach by the first mentioned method.

* Lit., "battery" guns.—J. M. G.

(2) A second method (which I have not myself tried) is the following :—

The service charge of the gun is diminished to, say, $1\frac{1}{2}$ lbs.,* and breaching is carried out by the first-mentioned method ; but it must be remembered that even with a diminished charge the shells still penetrate very deeply, and I would advise that nothing should in this case be hurried. In other words, the horizontal cut should not be made too low, beginning, say, at one quarter the height of the wall from the top, or even less, and then repeating the process. I have not tried this method, but it has every chance of success, as it is only necessary for the gunners to weigh the charges as accurately as possible to ensure precision.† The drawbacks of this method are— (a) Great care is required in the preparation of the charges ; but this is a small matter if in the park there is powder in cases, silk-cloth for cartridges, scales, and the necessary instruments (gauges, needles, &c.). (b) The chance of injuring the gun. To avoid the latter, the shell must be rammed home as hard as possible,‡ so that it may not slip back, and some wads should also be placed between the shell and the charge, although, if the gun detachment is smart, they may be dispensed with. In any case I advise you to have in the park 722 to 1,083 lbs. (20 to 35 *puds*) of gunpowder, and materials for about 300 or 400 cartridges. Whether diminished charges are used or not, the powder will not be lost.

Do not let the artillerymen object that they have no tables for firing such improvised charges. They will hit all right at the fourth or fifth round.

From the above, it will be evident that there is no use in placing the battery at 350 to 450 yards from the wall. On the contrary, the closer the battery is placed, the more deeply will the shells penetrate, and the more will one unfavourable condition influence the effect. It is true that the greater the range the less the accuracy, but the diminution of accuracy is insignificant with our guns. If a cool aim is taken, at 700 or 950 yards the *lateral* deviation should not be more than four or five feet. And taking into consideration that at the closer ranges the men become more excited, I am ready to bet that at 700 to 950 yards the shooting will be as good as at 350. Therefore, if there are no special reasons for placing the breaching battery nearer, my advice is to place it at 700 yards, or even farther off. The question of the exact distance can only be determined by the effect of his projectiles, considering from what point the commander of the battery can best observe his firing.

Respecting the two last questions (expenditure of ammunition and time), I must first observe that no experiments have been made to determine how far the projectiles of our new guns penetrate into bodies of different resistances ; therefore I cannot give an answer to the first question on rational bases. My answer will be founded on my own, so to speak, synthetic conclusions from my personal experience in working guns of different calibres and construction. On this basis, I should say that a wall of the same construction as that at Jizák could be breached by 500 light or 300 heavy shells.§ With walls of smaller dimensions, the number of projectiles would of course be smaller. The calculation is made for gradual cutting down. If diminished charges could not be used nor a horizontal cut be made, the number of rounds would be smaller.

* The original does not state for what gun this charge is intended.—*J. M. G.*

† Accuracy of weight here means only that all charges should be of the same weight. It does not matter whether the charges are more or less than $1\frac{1}{2}$ lbs., provided that all are of the same amount greater or less.—*Author.*

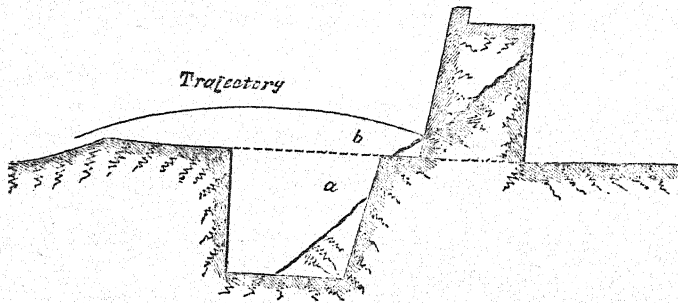
‡ Breach-loading guns.—*J. M. G.*

§ The breach to be 35 to 45 feet broad. The figures 500 and 300 are of course conditional as the breach may be required to have a greater or less slope. I think they would give a very good mark.—*Author.*

As to the question of time required for breaching, it depends on the number of guns in the breaching battery. The common impression produced by our Central Asian campaigns is, that we have always had a great deal too many guns, and too few rounds per gun. If we had had eight guns instead of four, we probably were ordered to fire more slowly, so that in the same time we only fired the same number of rounds as four guns would have fired.

Supposing that a battery of 4 guns were employed, in an hour 30 or 40 rounds could be fired. Therefore the breach could be made by 4 guns in about 15 hours by light, and 8 to 10 hours by heavy guns, assuming that the fire of none of the guns was diverted from its proper object. Thus in the course of a day a breach could be made, and during the night 70 to 100 rounds ought to be fired on to it to prevent the enemy from repairing it.

As to the question of opening a breach, the following circumstance must be kept in view. In steppe fortresses the ditches are very narrow and deep, and the following result may be produced. The wall falls down and the breach is made, but the earth catches on the berm, and from that to the



accumulation of earth in the ditch there is a vertical wall (a b) 7 to 9 feet high in a narrow ditch, which would be a most formidable obstacle to a storming column unprovided with scaling

ladders.* If, therefore, it is not precisely known whether such a wall exists, it is best to give the storming columns short scaling ladders.† If the breaching battery has a certain command, it can destroy this wall, but it is hardly to be hoped that the enemy will have built his fortress within 700 yards of a commanding hill.

From all I have said, it is evident that the 9-pr. gun is much to be preferred to the light gun, both from its large bursting charge and its lower initial velocity. The 9-prs. are perhaps supplied to the Expedition for this very purpose, leaving the lighter guns for field work. Although the following does not relate to breaching, I take the liberty of mentioning one more circumstance, and desire to say one word as to the direction of the fire and the choice of the position for a battery not intended for breach.

Both in steppe expeditions and in the last war, I have constantly remarked an unusual tendency to frontal and a neglect of enfilade fire. I ascribe our losses before Gorni-Dubniák exclusively to this extraordinary view of the way to use guns. In 1½ hours, 6 guns would have completely annihilated the resistance of each face of the Gorni-Dubniák redoubt. But we brought dozens of guns into action, and employed frontal fire only, and were then astonished at the small results.

* There was such an obstacle at the breach at Jizák, but it did not stop the storming columns who had ladders with them.—*Author*.

† Your Excellency probably knows that a certain amount of practice is necessary before using ladders 28 to 35 feet long, as otherwise they will get broken. The Turkistán troops know this drill, but those of the Caucasus do not. The management of short ladders is easy.—*Author*.

In such cases as the attack

Fig. 1.

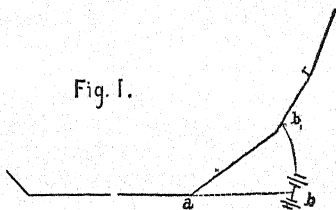


Fig. 2

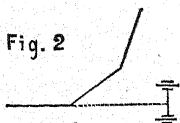
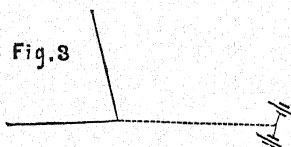


Fig. 3

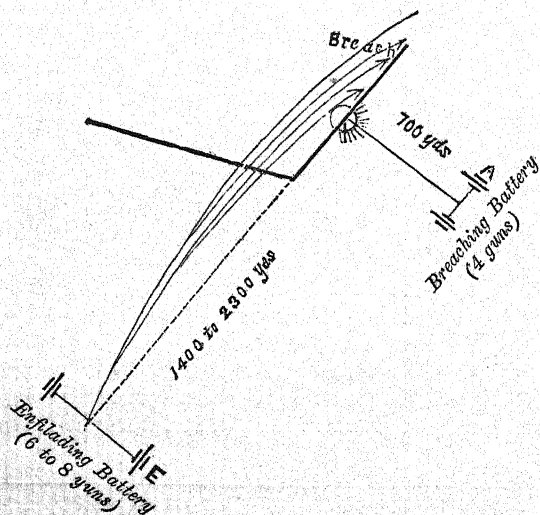


of an invested fortress of not too great periphery and having projecting parts, *one gun firing in prolongation of a face (enfilade fire) will do as much damage as 40 guns using frontal fire.* Before Plevna, with such a long line as the Turkish entrenchments presented, it was difficult and almost impossible to obtain flank fire. However far distant we established a battery for enfilade fire, as in fig. 1, at 2,333 yards, we were always ourselves exposed to the same kind of fire, which at short ranges almost annihilated our battery.

But if the lines of entrenchment had been more acute-angled as in fig. 2 and in fig 3, in the first case our battery would have been exposed to a slightly oblique fire only, and in the last it would only have been exposed to frontal fire. In all fortifications salient angles are a positive disadvantage when they do not give a cross-fire, as they are so easily

taken in flank. Therefore, Your Excellency, please direct your attention to

salient angles wherever there are such in the invested work. When such an angle is found, order a breaching battery to be built against one face at 700 yards, and also place at the same time a battery to enfilade the attacked face. Do not let it do too much damage to the enemy at first, lest it attract attention to itself. Let it only find the ranges, which will not be difficult



cult for it, as all its rounds can be observed from the breaching battery.

The less it fires the better. But when the breach is opened, order the enfilade battery to fire for two hours along the face with the greatest possible rapidity of fire. To concentrate the fire is not necessary; rather let all the guns fire with different angles of elevation, so as to search the whole face. Shrapnels are here of the greatest use, the fuzes being set at different lengths. Immediately the fire of the enfilade battery has ceased, order the storming columns forward. The enemy will be taken unawares, and the breach will be carried. The power of the defence of Telish in the last war was broken in $1\frac{1}{2}$ hours by enfilade fire, and the same procedure was used at the storming of Ura-Tapa with great success.

Pardon me, Your Excellency, for having strayed from my subject. I conclude my letter by wishing you every success, which I am sure will attend the foresight and care of our glorious leader of the Trans-Caspian Army.

With deep respect and devotion.

I remain,

Your Excellency's most obedient servant,

M. ZINOVIEFF.

P.S.—I have just been out to Povonzkovskoye, where I have conducted experiments in firing with diminished charges. They act well, but it is necessary to ram the shell well home.

APPENDIX XXII.

INSTRUCTIONS FROM THE COMMANDER OF THE EXPEDITION TO COLONEL PETRÚSEVITCH, No. 26, DATED 10TH (22ND) MARCH 1880.

On receiving this, please start at once for Tiflis, and thence proceed to Trans-Caspia, where your duties will be as follows:—

1. At Tiflis or at Baku you will receive sums as follows:—

For the purchase of camels, 500,000 *roubles*; for 1,000 Kirghiz horses, 100,000 *roubles*; for spare camel-saddle frames (*kujawas*) for pack-saddles and telegraph poles for a line 100 miles long, 100,000 *roubles*.

2. You are to buy as many camels as you can in as short a time as possible in Mangishlák and on the Atrak. The camels should be good and have serviceable saddles and saddle-cloths. You are not limited as to price, only get good camels.

3. The obtaining of the 1,000 Kirghiz horses is not a matter of such immediate importance; but you must remember that the Adáeffs will shortly begin to migrate from the Ural district, if they have not already done so. The horses should be good and of the type of artillery waggon-horses. You are not limited as to their price.

4. For the care of the camels you must hire drivers in Mangishlák, the Governments of Astrakhan and Stavrópol, and in the Terek district, allowing one driver to eight camels. Herdsmen must also be hired to bring in the horses. Besides their pay, the amount of which you will fix on the spot, the drivers and herdsmen will receive Government rations, as laid down by regulation, from the day of their engagement.

5. The camels and horses are to be sent in larger or smaller bodies, as you think fit, and under proper escort to Krásnovodsk; but the camels should be delivered at this point before the horses, for which latter special orders will be issued. The herds should then be sent out to graze in safe places, with plenty of water and forage.

6. You will buy 5,000 reserve camel-saddles and 10,000 pairs of frames (*kajawas*) for pack-saddles, with rope fastenings, which will be sent with the camels or on boats, as you deem best.

7. You will buy Kirghiz felts for 12,000 men at the rate of $1\frac{1}{2}$ square *arshin* (56 inches \times 42 inches) per man.

8. You will take measures for the immediate hire of coolies, as I will not allow soldiers to perform coolies' work.

9. For the supplies of the camels and horses in Fort Alexandrovsk, for the road thence to Krásnovodsk, and at Krásnovodsk itself, arrangements must be made for storing hay and barley for the horses, and hay, flour, and barley for the camels. The barley may be brought from Chikishliar under arrangements made by General Murávieff on dates settled by you, and the flour from Petrovsk, under the arrangements of the Local Caucasus District Intendence. As for hay, its delivery is to be arranged for locally by the Intendence, subject to your requisitions being shown, on the dates by which it is required.

10. You will buy and send to Krásnovodsk in the first half of April 3,100 telegraph poles.

11. To help you, there will be detailed from St. Petersburg Captain Melnitski of the General Staff, and Lieutenant-Colonel Yumudski of the 12th (Bailgorod) Lancers. Besides them, you will have under your orders officials of the Trans-Caspian District Administration. Then, as regards the placing of officials in Trans-Caspia under your orders, I have given instructions to Major-General Murávieff; and in order to obtain the services of officials serving in the Caucasus Military Circle, I have written to the Second-in-Command of the Army of the Caucasus.

12. I authorise you to issue extra pay, as travelling allowance, to those employed under your orders, at the rate of at most 3 *roubles* for field and 2 for other officers.

13. For extraordinary expenses incurred, you will set aside 25,000 *roubles* out of the total 700,000.

14. Your personal travelling allowance will be 6 *roubles* a day.

15. You will collect information as to how 800 *kibitkas* can best be obtained, or if some of that number can be obtained at a reasonable price.

At the conclusion of your special duty, you will forward all accounts, supported by the necessary documents, to me. You will also make frequent reports to me as to the progress made by you.

I must add that, as I think it most necessary to have a Control official now in Trans-Caspia, and as I do not expect to have the Field Control Department at my disposal just at present, I have requested the Commander-in-Chief of the Army of the Caucasus to detach such an official to the east coast of the Caspian.

(Sd.) SKOBELEFF,

General and A.D.C.

APPENDICES TO CHAPTER V.

APPENDIX XXIII.

LETTER FROM THE OFFICER COMMANDING THE AKHÁL-TEKKE EXPEDITION TO
THE CHIEF OF THE STAFF OF THE CAUCASUS MILITARY DISTRICT,
No. 135, DATED 19TH APRIL (1ST MAY) 1880.

With regard to the question of the organisation of the transport of the troops in Trans-Caspia, I have the honour to lay my views before your Excellency as follows :—

The peculiar nature of the theatre of war compels us to reduce to the utmost the number of horses in our Army, both on account of the small supply of good fresh water, at least during our advance into the *Oasis*, and on account of the want of forage in the country. Hence arises the necessity of reducing to the lowest scale the amount of wheeled transport with the troops, as in that country the greater part of the stores packed on waggons would have to consist of water and forage for the horses drawing them.

The experience of last year's expedition completely justifies what I have said. Kargánoff's 1,500 hired *arabas* could at the outside only carry 613·7 lbs. (17 *puds*) each, and only worked between Chikishliar and Chát. Almost the same may be said of the regulation waggons which accompanied the troops in that campaign, and they could render no real service to the troops, as they had to carry forage with them.

Taking all this into consideration, I propose the following organisation for the transport :—

I.—On the Atrak line—

A.—Wheeled transport—

*Infantry—*Two 4-wheeled waggons per battalion.

B.—Pack-animal transport—

*Cavalry—*One pack horse to every 10 combatant horses.

C.—Camel transport—

(1) *Infantry—*Per battalion of 600 men :—

		Camels.
For men's kits, at 18 lbs. each	...	67
For officers' baggage	...	21
For water	...	38
For forage for officers' horses	...	6
For ammunition	...	12
For 8 days' rations of biscuits and groats	...	63
For ship's provisions for one month	...	94
For tents	...	10
For bedding-felts	...	46
For field ovens and cooking utensils	...	17
Total	...	374

(2) *Artillery*—

(a) Per field battery of 200 men and 107 combatant, draught and spare horses :—

			Camels.
For men's kits	...	...	17
For officers' baggage	...	...	6
For water	...	...	5
For 8 days' rations of biscuits and groats	...	...	17
For ship's provisions for one month	...	...	25
For tents	...	...	2
For bedding-felts	...	...	12
For field ovens and cooking utensils	...	...	4
For 5 days' forage	...	...	33
Total			121

(b) Per mountain battery of 250 men with five officers' horses—

For men's kits	...	...	21
For officers' baggage	...	...	6
For water	...	...	7
For 8 days' rations of biscuits and groats	...	...	21
For ship's provisions (for one month)	...	...	31
For tents	...	...	3
For bedding-felts	...	...	16
For field ovens and cooking utensils	...	...	5
For 5 days' forage	...	...	41
Total			151

(3) *Cavalry*—Per squadron and *sotnia*—

For officers' baggage	...	...	4
For 5 days' forage	...	...	37
For 8 days' rations of biscuits and groats	...	...	10
For ship's provisions (for one month)	...	...	15
For tents	...	...	1
For bedding-felts	...	...	8
For field ovens and cooking utensils	...	...	3
Total			78

II.—For troops marching from Micháelovsk Bay to Kizil-Arvat—

A.—Horse transport—

Cavalry—One pack-horse for every 10 combatant horses.

B.—Camel transport—

(1) *Infantry*—Per battalion—

The same as on the Atrak Line (374), with additional for water.	122
Total	496

(2) *Cavalry*—Per squadron and *sotnia*—

	Camels.
For officers' baggage	5
For 8 days' rations of biscuits and groats	10
For ship's provisions for one month	15
For tents	1
For bedding-felts	8
For field ovens and cooking utensils	3
Total	78

(3) *Artillery*—

(a) Per field battery—

As above, with additional for the carriage of water ... 113

(b) Per mountain battery—

As above, with additional for the carriage of water ... 28

The following horsed wheeled-carriage to be taken :—10 hospital *arabas* per battalion, and, if circumstances permit, carriage for supply columns to work between Chikishliar and Chát.

Officers to be allowed transport as follows :—Each Company Officer, one camel ; Field Officer, two camels ; Officer Commanding a regiment, three camels ; Major-General, four camels ; Lieutenant-General, six camels. Any excess over the above will be forbidden.

I would allow one riding horse for every Company Officer, two for a Field Officer, four for a Major-General, and six for a Lieutenant-General.

(Sd.) SKOBELEFF,

A. D. C. to the Emperor.

APPENDIX XXIV.

CIRCULAR No. 936, ISSUED BY THE STAFF OF THE CAUCASUS MILITARY DISTRICT, DATED 19TH APRIL (1ST MAY) 1880, RESPECTING THE EQUIPMENT OF THE TROOPS ORDERED TO TRANS-CASPIA.

In the event of the anticipated despatch to Trans-Caspia on service of six battalions of the 1st Brigade of the 19th Infantry Division, with regimental staff and brigade administration, three battalions of the 21st Infantry Division [one each of the 81st (Apsheron), 82nd (Daghistan), and 84th (Shirvan) Regiments], one division of the 15th (Tver) Dragoons, two batteries of the 15th, and two of the 21st Field Artillery Brigade, and the 45th Divisional Ammunition Column ; the General Officer Commanding has issued the following orders :—

1. Troops are to take their uniform, winter trousers, and best great coats.
2. The men are to take, instead of the *képi*, the cloth cap with peak and cover and neck-flaps of white cloth. Each man is to have—(a) two

ordinary linen drill-blouses (the dragoons, two jackets) with the regimental shoulder-straps; (b) two pairs of boots and one pair of shoes of native pattern; and (c) scarf, hood, and cholera belt. Besides, all dismounted men are to have one pair of cotton nankin trousers, not less than three shirts, two pairs of drawers, and three pairs of foot-cloths. Bayonet-scabbards and "tesaks" are not to be taken.

Note 1.—The troops of the 19th Division, by special order, will, in addition to the three drill blouses, be provided with three blouses per man of the same pattern but made of sail cloth, and instead of shoes of native pattern will be served out with sail cloth boots with leather soles of the pattern ordered by the Officer Commanding the Division.

3. Instead of knapsacks, bags of the Turkistán pattern made of Russian duck* will be taken, and, besides mess-tins, water-bottles covered with grey cloth.

4. The troops to take into the field—(a) the light Linnemann spade (so far as they have been supplied with them), and (b) spare parts of their rifles.

Note 2.—On the arrival of the above-mentioned troops in Trans-Caspia, all men, not excluding the cavalry and artillery, will be provided with Linnemann spades by special order of the General Officer Commanding. Armourers' tools are only to be taken by the regiments of the 19th Division by special order of the General Officer Commanding.

5. For preparing food, each company, squadron, and battery is to have the necessary number of copper cooking pots, with covers, one for 50 or 60 men, and copper tea-boilers in such proportion as is considered necessary by the Commanders of divisions for the men under their command.

6. On departure for field service, there are not to be taken—

(a) The tentage at present in possession of the troops, and (b) the entrenching tools carried with the baggage.

7. In the 21st Division and the 15th Dragoons there are to be taken for unforeseen expenses from regimental funds per battalion 1,500 *roubles*, per squadron 1,000 *roubles*.

8. Every mounted man is to have a horse on the establishment. Further, each Company Commander is to have a horse, with free forage allowance, from the date of his receiving field allowance.

9. All money required for the preparation of the troops for service as above detailed, except for those articles of equipment in ordinary use, is to be drawn from the sums assigned for this Expedition, by requisition on the District Control Authorities for the necessary amounts, supported by vouchers, for the expenditure incurred.

In informing you of this for the necessary action, the District Staff thinks it necessary to add that the troops will take with them on service their hospital equipment, 8 days' supply of biscuits, and the full complement of ammunition. How much baggage (regimental, battery, company, squadron, and officers') may be taken by the troops will be afterwards notified, but in any case those persons who are allowed separate baggage on the basis of the scale of 11th (23rd) November 1876, and who receive field allowance, should be informed that wheeled carriage will be strictly forbidden.

* The troops of the 19th Division, by special order, to be equipped with bags of sail-cloth.
Author.

LETTER FROM THE GENERAL STAFF OF THE CAUCASUS, MILITARY DISTRICT,
TO THE CONTROLLER OF THE SAME DISTRICT, No. 1048, DATED 1ST
(13TH) MAY 1880.

With regard to the troops ordered to proceed this year to Trans-Caspia, besides the measures laid down in Circular No. 936, issued by this Staff on the 19th April (1st May), by order of the General Officer Commanding, to the Subordinate Commanders of the troops of the Caucasus Army, the following instructions are issued :—

On the departure of the troops on service—

(1) They will take with them—(a) per battalion a hospital with 6 beds, the Division of Dragoons, a hospital with 8 beds, each battery one with four, and the Divisional Ammunition Column, a hospital with 10 beds, besides divisional hospitals each for 40 sick. (b) Infantry and Cossacks will only take with them the regulation number of cartridges carried by the men (those carried with the baggage being given up by the troops on their joining the Army), but the Division of Dragoons will have the full complement of cartridges. The ammunition boxes will not be taken, as with the field force the spare cartridges will be carried in the boxes in which they are packed. (c) Only the usual supply of biscuits carried by the men will be taken. For the preparation of bread on the way to the port of embarkation, bakers must be sent ahead in the usual manner.

(2) In the Infantry each company must have a pack-saddle, in case it is found necessary to supply them with pack-horses to carry cartridges into the fighting line.

(3) For the transport of officers' baggage and the heavy baggage of the troops to the port of embarkation, requisitioned carriage will be supplied by order from the authorities. To diminish the number of carts required for the troops' heavy baggage the following will be taken :—

(a) By the regiments of the 1st Brigade, 19th Division, and the battalions of the 21st Division [one each of the 81st (Apsheon), 82nd (Daghistan) and 84th (Shirvan) regiments], one regimental waggon per company drawn by three of the Government transport horses. By the regiments of the 19th Division, with 13 companies each, counting the non-combatant company, 26 carts and 78 horses, and in the battalions of the 21st Division, with 12 companies, 12 carts, and 36 horses.

(b) By the two batteries of the 19th and the one (the 1st) of the 21st Field Artillery Brigade, each two regimental waggons drawn by three Government transport horses, altogether 3 carts and 9 horses, and by the Mountain (6th) Battery of the 21st Brigade, 19 pack-horses which they will take with them on service. The Infantry will take with them on these carts the hospital stores of the divisional hospital. On the arrival of the troops at the port of embarkation, the Government horses will be sold or special orders will be given for their disposal.

(4) The Division of the 15th (Tver) Dragoons and the two *sotnias* of the Taman Cossack Regiment will have one pack-horse for every 10 combatant horses. For the purchase of the pack animals for the Division of Dragoons, for each of which will be allowed 100 *roubles*, and also for the provision of pack-saddles and of a treasure-chest, money will be drawn from the sums assigned for the expedition.

On arrival in Trans-Caspia—

(1) The troops will have no wheeled transport except the one-horse carts which are now being constructed, but on arrival at Petrovsk or at Baku each battalion will be furnished with three horses,* each squadron or battery with two, the Ammunition Column with five, each *sootnia* with one, and each divisional hospital with 20 horses. Each one-horse cart is adapted for the conveyance of two sick or wounded.

(2) All requirements of the troops for the transport of ammunition (except in the Division of Dragoons) and stores, and in the Cavalry and Artillery in horses, as well as for transport for the men's kits, company mess, and army baggage, will be met under the orders of the General Officer Commanding on arrival in Trans-Caspia.

(3) No wheeled transport will be allowed for officers' baggage, neither to those who receive an allowance for this purpose nor to others. Camels with pack-saddles will be handed over under the orders of the General Officer Commanding on arrival in Trans-Caspia to officers as follows:—To each Company Officer one, Staff Officer two, Commander of a regiment three, and Major-General four. Private camels are forbidden.

(4) Every one permitted to be mounted and also Company Commanders (in the Infantry) will be allowed riding horses as follows:—

(a) In the Infantry, Company Officers one, Staff Officers and Major-Generals two each.

(b) In the Cavalry and Artillery the number of officers' horses to be according to regulation.

Further, all Subaltern Officers and others assimilated to that grade to whom no horse is allowed by regulation, will be permitted to provide themselves with a charger at their own expense, and will be given forage allowance in money till they join the Expeditionary Force, and after that in kind. All those, however, who, up to the date of departure from their garrisons and during the campaign receive forage allowance, but have no riding horses from any cause whatever, will have the amount of this allowance deducted from their pay. No private horses whatever except those mentioned above will be allowed.

For the purchase of riding horses, there will be allowed to Company Commanders of the 21st Division (as was done in the 19th Division) 125 *roubles* each from the sums assigned for the Expedition.

The District Staff think it necessary to inform you of this, so that you may take your measures to furnish the money to the troops of the 21st Division and the 15th Dragoons for the purchase of riding and pack-horses and the provision of pack-saddles and a treasure-chest, and also for the issue of forage allowance to those Subaltern Officers to whom this allowance has been granted for horses provided at their own expense.

* By a supplementary order dated 3rd (15th) May troops were ordered to take with them a set of single harness for shaft draught for each cart to be supplied to them.—*Author*.

APPENDIX XXVI.

RETURN OF ARTILLERY STORES ORDERED TO BE DESPATCHED TO TRANS-CASPIA FOR THE EXPEDITIONARY FORCE.

Detail.	With the troops.	Already in Trans-Caspia.	With the Divisional Flying Park.	AT PETROVSK.				AT BAKU.			
				FIRST CONSIGNMENT.		SECOND CONSIGNMENT.		FIRST CONSIGNMENT.		SECOND CONSIGNMENT.	
				Quantity of stores.	Num-ber of boxes.	Weight. Tons.	Cwt.	Quantity of stores.	Num-ber of boxes.	Weight. Tons.	Cwt.
<i>S. A. ball cartridge.</i>											
For Berlin infantry rifle	1,156,920	1,881,921	513,300	1,000,500	1,150	61	19	...	...	...	...
For Berlin cavalry rifle	122,040	813,377	96,800	...	...	...	...	...	...	...	...
For Smith and Wesson revolver	7,245	2,560	11,932	...	...	...	...	...	...	...	...
<i>9-pr. ammunition with copper rings for heavy field guns.</i>											
Common shell, field	...	...	...	684	...	...	...	...	...	...	...
Shrapnel	...	...	...	756	...	...	...	...	...	...	...
Case	...	...	...	72	...	...	...	...	...	...	...
<i>4-pr. ammunition with copper rings for light field guns.</i>											
Common shell, field	...	...	...	456	92	8	3	...	...	...	...
Shrapnel, field	...	...	...	456	92	9	5	...	...	...	...
Case (18 lbs.) shells (common)	...	...	...	48	10	...	16	...	...	...	...
<i>5-pr. Zouave cartridges for ditto</i>											
Special fuzes for ditto	...	...	...	...	...	...	...	...	...	...	...
Quick match	...	...	...	...	...	...	...	...	...	...	...
Grease for cartridges	...	...	...	...	...	...	...	...	...	...	...
Thumb-screws for percussion dis-	...	...	...	...	...	...	...	...	...	...	...
tance fuzes	...	...	...	...	...	...	...	...	...	...	...
Friction tubes	...	...	...	...	...	...	...	...	...	...	...
Mats	...	...	...	...	...	...	...	...	...	...	...
Double mats	...	...	...	...	...	...	...	...	...	...	...

APPENDIX XXVII.

RETURN OF THE STORES BORNE ON THE BOOKS OF THE ARTILLERY DEPÔTS IN TRANS-CASPIA AND READY FOR ISSUE, PART OF THEM BEING IN THE BAKU SECTION OF THE TIFLIS DISTRICT ARTILLERY DEPÔT AND THE REST IN TRANS-CASPIA.

Description.	In Trans-Caspia.	In the Baku Section.
Iron cases for carrying rockets with straps ...	10	...
Tarpaulins, 21 feet square, much used, but serviceable ...	9	...
Tarpaulins, unserviceable ...	1	...
Tarpaulins, 21 feet long and 14 feet broad, much used, but serviceable ...	10	...
Thimbles for new pattern percussion fuzes, with spare caps ...	4,908	1,638
Thimbles for distance fuzes ...	4,802	1,638
Rope slings, 4 lbs. ...	267	85
Rope slings, 3 lbs. ...	435	145
4-pounder shrapnel shell, filled, with distance fuzes ...	2,534	870
3-pounder common shell, filled, with percussion fuzes ...	1,488	505
3-pounder shrapnel shell, filled, with distance fuzes ...	1,486	505
Copper cartridge cases, empty, unserviceable ...	36,886	...
1½-lb. charges, serviceable for shells ...	5,089	1,740
1½-lb. charges, unserviceable ...	57	...
1½-lb. charges, serviceable for case shot ...	260	85
80 <i>zlotnik</i> charges, serviceable for shell ...	2,961	1,010
80 <i>zlotnik</i> unserviceable ...	13	...
4-pounder case-shot, new pattern ...	260	85
3-pounder case-shot with special charges ...	445	145
Quadrants with boxes and leather cases ...	10	...
Copper pans ...	3	...
Copper buckets ...	3	...
Straps for carrying rocket troughs ...	10	...
Straps for carrying rockets ...	100	...
Fuze pockets with straps ...	10	...
Quick-match holders with leather straps, much used ...	10	...
Laboratory knives ...	10	...
Compressors for Krinka rifles ...	55	...
Compressors for Krinka rifles ...	55	...
Compressors for Krinka rifles ...	549	...
Turnscrews for Krinka rifles ...	...	...
Cartridges for infantry Berdan rifle with 1½ <i>zlotniks</i> powder charge ...	1,881,921	...
Cartridges for cavalry Berdan rifle with 1 <i>zlotnik</i> charge ...	813,377	...
Cartridges for Smith and Wesson revolver ...	2,500	...
Cartridges for Peabody-Martini rifle ...	17,600	...
Detonators ...	1,266	...
Rammers with covers ...	5	...
Rammers without covers ...	5	...
Artillery powder of recent manufacture ...	9,747lbs.	...
Cleaning-rods for Krinka rifles ...	575	...
Signal rockets, serviceable ...	67	...
Signal rockets, unserviceable ...	2	...
War rockets, 2 inch, serviceable ...	780	...
War rockets, 2 inch, unserviceable ...	64	...

Return of stores on the books of the Artillery depôts in Trans-Caspia—contd.

Description.	In Trans-Caspia.	In the Baku Section.
Krinka Rifles, serviceable	226	...
Krinka Rifles, unserviceable	53	...
Portfires, serviceable	194	...
Portfires, unserviceable	18	...
Quick-match pouches with straps	10	...
Iron instruments for greasing Berdan cartridges	3	...
Iron instruments for greasing Krinka cartridges	1	...
Iron instruments for greasing Smith and Wesson revolvers	1	...
Rocket troughs	10	...
Spare percussion fuzes for 4-pounder shell	15	5
Spare percussion fuzes for 3-pounder shell	15	5
Spare distance fuzes, single	15	5
Spare distance fuzes, double	15	...
Friction tubes	10,799	3,726
Quick-match	291 ft. 8 in.	...
4-pounder "Sharokhs" * filled with percussion fuzes	2,612	870
PACKING MATERIALS.		
Wrapping paper	10 quires	3 quires.
Powder barrels, fit for despatch	7	...
Ropes, 1 inch, used but serviceable	1850·1 lbs.	606·4 lbs.
Ropes, 1 inch, unserviceable	56·8 lbs.	...
Ropes, 1½ inch, serviceable	685·4 lbs.	...
Ropes, 1½ inch, unserviceable	124·5 lbs.	...
Unwound rope, fit for use	7 pieces	...
Iron screws, 2-inch	215	...
Felt, fit for use	76·7 lbs.	...
Felt, in pieces, serviceable	505·4 lbs.	...
Nails, 3½ inch, serviceable	123	...
Nails, 4½ inch, serviceable	12·6 lbs.	...
Wooden plugs, for 4-pounder shell	{ 1,517 } { 3,703 }	1,740
Soaked bast, serviceable	350·1 lbs.	...
Targets, unserviceable	4	...
Duck sacks, serviceable	7	...
Waxed thread for binding friction tubes	7·38 oz.	2·43 oz.
Tow, serviceable	4757·4 lbs.	1648·5 lbs.
Wrappers, 4lb. weight { new pattern	5,020	1,740
{ old pattern, unserviceable	219	...
Mats, serviceable	2,312	602
Mats, old, but serviceable	172	...
Mats, unserviceable	10	...
Grease for greasing cartridges	1,248 lbs.	...
Cylindrical cartridge cases, 9-pr.	267	85
Cylindrical cartridge cases, 4-pr.	5,120	1,740
Cylindrical cartridge cases, 3-pr.	2,930	1,010
Double iron cases, covered with leather, each for 2 rockets	100	...
Cylindrical cases for 3-pr. case shot with special charge	435	145
Double matting, serviceable, pieces	45	...
Double matting, unserviceable, pieces	4	...

* Common shells, spherical, solid heads, now obsolete.—J. M. G.

Return of stores on the books of the Artillery depôts in Trans-Caspia—concl'd.

Description.	In Trans-Caspia.	In the Baku Section.
S. A. ammunition boxes with zinc lining, used but serviceable	3,138	...
S. A. ammunition boxes fit for packing	471	...
S. A. ammunition boxes, unserviceable	31	...
Ammunition boxes, each for 21 4-pr. shells and cartridges, used but serviceable	538	183
Ammunition boxes, each for 21 3-pr. shells and cartridges, serviceable	316	110
Ammunition boxes, fitted for pack carriage with iron fittings, old, but serviceable	13	...
Ammunition boxes, ammunition column pattern, serviceable ...	1	...
Boxes bound with iron, with rope handles, old, but serviceable	38	...
Boxes for rocket troughs, serviceable	5	...
Arm chests, old but serviceable	10	...
Arm chests, fit for packing	1	...
Arm chests, unserviceable	2	...
Boxes for friction tubes, old, but serviceable	11	4
Boxes for friction tubes, unserviceable	1	...
Boxes, transport pattern, serviceable	1	...

APPENDIX XXVIII.

RETURN OF THE THIRD CONSIGNMENT OF AMMUNITION AND STORES FROM THE
TIFLIS DISTRICT ARTILLERY DEPÔT.

Berdan infantry rifle cartridges	1,156,230
Cartridges for Smith and Wesson revolver	5,976
Grease for cartridges, calculated at 6·75 lbs. for every 10,000 ...	...
Berdan cartridges and 3·15 lbs. for every 10,000 revolver cartridges ...	794·2 lbs.

Ammunition, service, for 4-pounder light field guns :—

Common shell with percussion fuzes	1,860
Shrapnel shell with distance fuzes	1,960
Case-shot	120
Cartridges, friction tubes, and thimbles for distance tubes according to regulation.	

APPENDIX XXIX.

RETURN OF AMMUNITION AND STORES IN POSSESSION OF THE TROOPS IN THE
DIVISIONAL AMMUNITION COLUMN AND IN THE LOCAL PARKS OF THE
TRANS-CASPIAN EXPEDITIONARY FORCE.

Description.	With the troops.	In the Divisional Ammunition Column.	In one local park.	Total.	Of this total there are now in Trans-Caspia.	Remaining to be sent.	Weight to be transported.
Cartridges for Berdan infantry rifle for 9,636 men	1,158,320	513,300	1,799,340	3,468,960	1,822,421	1,500,000	1,480.9 cwt.
Cartridges for 10 machine guns ... ..	...	...	450,000	450,000	...	...	...
Cartridges for Berdan cavalry rifle for 2,034 men	122,040	96,800	147,280	366,120	813,377	...	...
Cartridges for Smith and Wesson revolver	7,245	11,952	2,538	21,735	...	2,538	180.5 lbs.
<i>Ammunition for four 9-pr. bronze guns—</i>							
Common shell	228	204	252	684	...	252	86.4 cwt.
Shrapnel shell	228	216	240	684	...	240	79.36 cwt.
Case-shot	24	12	36	72	...	36	1,255.95 lbs.
<i>Ammunition for four 9-pounder (steel) guns—</i>							
Common shell (double walled)... ..	228	102	264	684	...	264	96 cwt.
Shrapnel shell	252	216	288	756	...	288	106.98 cwt.
Case-shot	24	24	...	72	...	...	...
<i>Ammunition for twenty-four 4-pr. steel guns—</i>							
Common shell (double walled)... ..	1,816	1,134	2,586	5,530	...	2,586	606.18 cwt.
Shrapnel shell	1,980	1,134	2,826	5,944	...	2,826	662.2 cwt.
Case-shot	120	84	156	360	...	156	39.7 cwt.
<i>Ammunition for eight 3-pr. mountain guns—</i>							
Common shell	336	330	<u>672</u> 1,002	<u>1,338</u> 1,668	1,994	...	...
Shrapnel shell	336	330	<u>672</u> 1,002	<u>1,338</u> 1,668	1,994	...	...
Case-shot with special charges... ..	112	108	<u>224</u> 332	<u>332</u> 440	580	...	...
<i>Ammunition for 4 mortars—</i>							
Spherical shell with charges	360	...	840	1,200	...	...	...
Weight of the other stores, &c., of the 45th Divisional Ammunition Column, including 124 ammunition waggons and 5 park waggons with stores, &c. ... ..	...	...	...	...	...	...	2,949.12 cwt.
Total from Petrovsk ... ..	...	...	...	...	...	...	4542.72
Total from Tiflis ... ..	...	...	...	...	...	...	1513.92

APPENDIX XXX.

RETURN OF SUPPLIES, AND OTHER STORES, FOR HOSPITALS IN TRANS-CASPIA
DRAWN UP WITH DUE REGARD TO LOCAL CONDITIONS.

No.	Description.	For one man per diem.	For 200 men for one month.
Supplies for hospitals in Trans-Caspia, calculated according to local conditions.			
1ST CATEGORY.			
1	White bread is issued in standing hospitals in two kinds of rations, the ordinary of 1 $\frac{3}{4}$ lbs., and the reduced of 1 $\frac{1}{2}$ lbs. per man per diem.		
2	Beef	...	As per regulation.
3	Mutton	...	
4	Oat groats	...	
5	Rice flour	...	
6	Barley groats	...	
7	Pearl barley	...	
8	Semolina	...	
9	Buckwheat groats (for gruel)	...	
10	Rice groats	...	
11	Compressed vegetables	...	
12	Cow's milk butter	...	
13	Fresh milk (cow's, sheep's, or goat's)	...	
14	Potatoes	...	
15	Potato flour	...	
16	Pepper	...	
17	Garlic	...	
18	Mustard	...	
19	Salt ...	...
20	Dried prunes	...	
21	Vinegar	...	
2ND CATEGORY.			
1	Biscuits of white flour. White bread cut in slices and dried is much preferable for hospital use to ordinary biscuits. Committees should take into consideration that ordinary biscuit is very solid, and is not easily softened even after having been some time in water, and is less easily digested than rusks. Besides, it is well known that biscuits sometimes contains hurtful substances. If, however, the use of biscuits is considered necessary, they ought to be ordered from some reliable firm.	2 lbs. as a substitute for the ordinary ration of white bread.	9,025 lbs.
2	Sago. It is proposed to issue sago for making soup and jelly in a ration of ...	43·2 drams	324·9 lbs.
3	Dried cabbage for kvass when issued instead of the $\frac{1}{2}$ krujka (pint) of pickled cabbage	19·2 drams	252·7 lbs.

Return of supplies, and other stores, for hospitals in Trans-Caspia—contd.

No.	Description.	For one man per diem.	For 200 men for one month.
<i>Supplies for hospitals in Trans-Caspia— contd.</i>			
2ND CATEGORY— <i>contd.</i>			
4	Tinned vegetables—Carrots ...	} 14·4 drams ...	27 lbs.
5	" Sorrel ...		
6	" Spinach ...		
7	" Cabbage ...		
8	" Turnips ...		
9	" Mixed ...	} 9·6 drams ...	270·75 lbs.
10	" Garlic ...		
11	" Horse radish ...		
<i>Note.</i> —The above may also be vegetables dried in the sun.		·45 lbs. ...	...
12	Preserved soup in cakes for increasing the meat ration when this is considered necessary, as the meat in Trans-Caspia is very bad		Supposing $\frac{1}{4}$ of all the patients to have scurvy.
13	Condensed milk. In the absence of precise data it is proposed to issue 1 (Russian) pound (= ·9 lb. English) of condensed milk for every 6 patients which, with water added, will give 1 lb. of milk per man when no other milk is available	2·4 drams ...	54·15 lbs.
14	Dried fruits—Apples ...	} 14·4 drams ...	18 lbs.
15	" Raisins ...		
16	" Apricots ...		
17	Tarragon and essence of vinegar to add to soup, issued in same proportions as pepper...	·384 drams ...	9 lbs.
18	Marten's currant extract for adding to jelly	1 tea spoonful ...	9 lbs.
19	Fruit acid ...	12 drams ...	34·15 lbs.
20	Coffee ...	...	3·6 lbs.
21	Cocoa and chocolate for officers ...	...	3·6 lbs.
3RD CATEGORY.			
1	Poultry ...	} Special rations.	
2	Cucumbers ...		
3	Fresh fruit ...		
4	Preserved meats ...		
5	Ham ...		
<i>Other stores for hospitals in Trans-Caspia, calculated according to local conditions.</i>			
1ST CATEGORY.			
1	Red wine; best transported in leather bottles (<i>burduks</i>); used in hospitals for malted drinks. In case of deterioration, it can be used as vinegar. Such wine can be obtained in Enzeli through our Consul in Resht	} According to regulation.	
2	Sherry ...		
3	Brandy ...		

Return of supplies, and other stores, for hospitals in Trans-Caspia—concl.

No.	Description.	For one man per diem.	For 200 men for one month.
<i>Other stores for hospitals in Trans-Caspia— contd.</i>			
1ST CATEGORY— <i>contd.</i>			
4	Distilled spirits	...	} According to regulation.
5	Mustard	...	
6	Lemons	...	
7	Sweet almonds	...	
8	Olive oil	...	
9	Sweet oil	...	
10	Refined sugar	...	
11	Fresh eggs	...	
12	Wax	...	
13	Flax seed	...	
14	Paper	...	
15	Soap	...	
16	Oxen and sheep's tallow	...	
17	Salt	...	
18	Vinegar	...	
19	Black tea	...	
20	Ink	...	
21	Envelopes	...	
22	Sealing wax	...	
2ND CATEGORY.			
1	Vermouth	...	15 bottles.
2	Condensed milk	...	4½ lbs.
3	Extract of currants	...	9 lbs.
4	Lime juice, recommended by some members of the Committee, as, used in the fleet. One ounce per day per man on the first appearance of scurvy.	...	

APPENDIX XXXI.

RETURN OF ENTRENCHING TOOLS FOR THE ENGINEER PARK.

	No.
Steel shovels with handles	1,500
Hoes with pointed ends and handles	596
Spades	119
Pickaxes	220
Crowbars, 15 lbs.	50
Carpenter's axes with handles	30
Whetstones with centre bits, small	2
Whetstones with centre bits, large	1
Field forge	1

Return of supplies, and other stores, for hospitals in Trans-Caspia—contd.

No.	Description.	For one man per diem.	For 200 men for one month.
<i>Supplies for hospitals in Trans-Caspia— contd.</i>			
2ND CATEGORY— <i>contd.</i>			
4	Tinned vegetables—Carrots ...	} 14·4 drams ...	27 lbs.
5	" Sorrel ...		
6	" Spinach ...		
7	" Cabbage ...		
8	" Turnips ...		
9	" Mixed ...	} 9·6 drams ...	270·75 lbs.
10	" Garlic ...		
11	" Horse radish ...		
<i>Note.</i> —The above may also be vegetables dried in the sun.		45 lbs.	...
12	Preserved soup in cakes for increasing the meat ration when this is considered necessary, as the meat in Trans-Caspia is very bad ...		Supposing $\frac{1}{2}$ of all the patients to have scurvy.
13	Condensed milk. In the absence of precise data it is proposed to issue 1 (Russian) pound (=·9 lb. English) of condensed milk for every 6 patients which, with water added, will give 1 lb. of milk per man when no other milk is available ...	2·4 drams ...	54·15 lbs.
14	Dried fruits—Apples ...	} 14·4 drams ...	18 lbs.
15	" Raisins ...		
16	" Apricots ...		
17	Tarragon and essence of vinegar to add to soup, issued in same proportions as pepper...	384 drams ...	9 lbs.
18	Marten's currant extract for adding to jelly	1 tea spoonful ...	9 lbs.
19	Fruit acid ...	12 drams ...	34·15 lbs.
20	Coffee ...	...	3·6 lbs.
21	Cocoa and chocolate for officers ...	...	3·6 lbs.
3RD CATEGORY.			
1	Poultry ...	} Special rations.	
2	Cucumbers ...		
3	Fresh fruit ...		
4	Preserved meats ...		
5	Ham ...		
<i>Other stores for hospitals in Trans-Caspia, calculated according to local conditions.</i>			
1ST CATEGORY.			
1	Red wine; best transported in leather bottles (<i>burduks</i>); used in hospitals for malted drinks. In case of deterioration, it can be used as vinegar. Such wine can be obtained in Enzeli through our Consul in Resht ...	} According to regulation.	
2	Sherry ...		
3	Brandy ...		

Return of supplies, and other stores, for hospitals in Trans-Caspia—concl.

No.	Description.	For one man per diem.	For 200 men for one month.
<i>Other stores for hospitals in Trans-Caspia— contd.</i>			
1st CATEGORY— <i>contd.</i>			
4	Distilled spirits	...	} According to regulation.
5	Mustard	...	
6	Lemons	...	
7	Sweet almonds	...	
8	Olive oil	...	
9	Sweet oil	...	
10	Refined sugar	...	
11	Fresh eggs	...	
12	Wax	...	
13	Flax seed	...	
14	Paper	...	
15	Soap	...	
16	Oxen and sheep's tallow	...	
17	Salt	...	
18	Vinegar	...	
19	Black tea	...	
20	Ink	...	
21	Envelopes	...	
22	Sealing wax	...	
2ND CATEGORY.			
1	Vermouth	...	15 bottles.
2	Condensed milk	...	4½ lbs.
3	Extract of currants	...	9 lbs.
4	Lime juice, recommended by some members of the Committee, as. used in the fleet. One ounce per day per man on the first appearance of scurvy.	...	

APPENDIX XXXI.

RETURN OF ENTRENCHING TOOLS FOR THE ENGINEER PARK.

	No.
Steel shovels with handles	1,500
Hoes with pointed ends and handles	596
Spades	119
Pickaxes	220
Crowbars, 15 lbs.	50
Carpenter's axes with handles	30
Whetstones with centre bits, small	2
Whetstones with centre bits, large	1
Field forge	1

Return of entrenching tools for the Engineer Park—contd.

Tools with it :—

	No.
Chisels	3
Hammers	3
Hammers	2
Files	6
Rasps	3
Pincers	3
Screw draw-plates	1
Anvil	2
Iron plate	1
Clippers	2
Scissors	1
Nail tool	1
Lock	1

APPENDIX XXXII.

RETURN OF DIFFERENT TOOLS AND INSTRUMENTS PREPARED AT TIFLIS FOR THE
ENGINEER PARK.

	No.
Crowbars, 15 lbs.	50
Saws, woodman's	10
Saws, cross-cut	10
Saws, longitudinal-cut	10
Files, semi-circular	12
Files, circular	12
Files, three-faced	12
Handles for large saws	3
Handles for small saws	3
Carpenter's chisels	12
Carpenter's augers, large	12
Carpenter's augers, small	12
Centre-pieces with bits	3
Spokeshaves, ordinary	5
Spokeshaves, double	5
Carpenter's hammers	12
Carpenter's compasses	5
Hand-saws	5
Turn-screws	5
Squares	3
Levels	3
Hones	12
Chisels	12

*Return of different tools and instruments prepared at Tiflis for the
Engineer Park—contd.*

	No.
Pincers	5
Drills, 3-foot	5
Drills, 2-foot	5
Ladles, 3-foot	5
Ladles, 2-foot	5
Rammers with copperheads, 4-foot	5
Rammers with copperheads, 3-foot	5
Copper pickets, 4-foot	5
Copper pickets, 3-foot	5
Prickers	5
Hammers with steeled heads, 10 lbs.	5
Hammers with steeled heads, 5 lbs.	5
Ropes, 1-inch, 3 strand	630 feet.
Dutch string	13·5 lbs., Engl.
English carpenter's axes	50
Common axes	143
Spades with handles	130
Pickaxes with handles	135

APPENDIX XXXIII.

RETURN OF ELECTRIC STORES HANDED OVER BY THE CAUCASUS SAPPER BRIGADE
AND FROM THE RESERVE OF THE TECHNICAL ELECTRIC DEPARTMENT TO THE
ENGINEER PARK OF THE TRANS-CASPIAN FORCE.

*From the Caucasus Field Engineer Park and the 1st Caucasus
Sapper Battalion—*

	No.
Magnetic compass with multiplier	1
Sensitive galvanometer in a compass-box	1
Fuzes	50
Cable insulated with gutta-percha	3,500 feet.
Gutta-percha in bars	1·8 lbs.
Solution of gutta-percha	1·8 lbs.
Plates for { Copper	300
Batteries. { Zinc	400
{ Copper end-plates with terminal screws	6
{ Cardboard	2,000
Sal-ammoniac	36·1 lbs.
Straight wire-saws	2
Curved wire-saws	2
Laboratory knives with rings	2
Scissors	1
Cork	$\frac{1}{2}$ lb.
Pasteboard, sheets of	10

Return of electric stores handed over by the Caucasus Sapper Brigade and from the reserve of the Technical Electric Department to the Engineer Park of the Trans-Caspian Force—contd.

From the Caucasus Field Engineer Park and the 1st Caucasus Sapper Battalion—contd.

	No.
Daniel's cells in a wooden box	1
Wooden stands with glass insulators and wooden screws, each for 10 pairs of voltaic batteries	3
Wooden stands with wooden screws for test batteries	1
Wooden box for battery small stores	1
Boxes for holding copper and zinc plates 23,625 inches long, 7 inches broad, and 7 inches high	4
Wooden cups for moistening cardboard plates	2
Cast-iron pot for boiling resin	1
" " " water	1
Iron drums for reeling up cable 19.25 inches long and 38.5 inches in diameter	2
Iron axles for the drums	2
Leather case for the instruments	1
Iron pot for melting gutta-percha	1
Leather bag for sal-ammoniac	1
Glass bottles covered with plaited straw	2
Thick resin	36.1 lbs.
Iron ladle for resin	1
Powdered copperas	9 lbs.
Sulphuric acid	1.8 lbs.
Hemp	4.5 lbs.
Cotton thread	45 lbs.
Cloth	7 feet.
Dutch thread	9 lbs.
Cases of hardened copper holding 20 lbs. of powder and covered with felt	6
Wooden chests for pack carriage, covered with coloured sail cloth, bound with iron, and with iron mountings, fitted up inside	5
Magneto-electric apparatus	1

From the reserve of the Technical Electric Commission—

Cork fuzes	100
Dreier's fuzes with cap fixings	100
Caps with fulminate of mercury	100

APPENDIX XXXIV.

ESTABLISHMENT OF THE VARIOUS STAFFS OF THE TROOPS IN TRANS-CASPIA
APPROVED BY PRINCE MELIKOFF, A. D. C. TO THE EMPEROR, COMMAND-
ING THE TROOPS IN THE CAUCASUS, DATED TIFLIS, 12TH (24TH) MAY 1880.

Rank or Appointment.	Number.	YEARLY SCALE OF INCREASED PAY WITHOUT STOPPAGES.						Riding horses.	Scale of ration money.	Classed rank.	Scale of pension.	Remarks.
		Pay.		Table money.		Extra allowance.						
		Roub.	Kop.	Roub.	Kop.	Roub.	Kop.					
General or Lieutenant-General Commanding	1	According to rank.	6	2	* If the officers belong to the special arms and are Captains or Staff-Captains at the time, then according to the 8th scale.
Aide-de-Camp	2		...	...	...	...	...	2	0*	...	...
(Captains or Subalterns.)												
Field Officers, Captains, or Subalterns on special service ...	3	According to rank.	...	420	...	...	...	Field officers	2 7	...	...
			...	...	...	...	...	Others	2 8	...	...
Interpreter	1		800	...	...	...	...	2 2	...	...	...
I.—EXPEDITIONARY STAFF.												
Chief of the Staff (Major-General or Colonel)	1	According to rank.	...	1,800	...	900	...	3	3	
Senior Staff Officers	3		...	420	...	...	...	Field officers	2 7	...	...
(Field Officers, Captains, or Subalterns.)			...	...	...	...	...	Others	2 8	...	...
Assistants to the above	2	According to rank.	...	360	...	...	...	1	8	...	...
(Captains or Subalterns.)			...	...	...	...	...	...	...	...	...
Translator of letters	1		800	...	...	...	...	1	...	...	...
Interpreter	1		600	...	...	...	...	1	...	...	...
Topographers (Field Officers, Captains, or Subalterns)	3*	According to rank.	...	420	...	...	...	Field officers	2 7	...	...
			...	...	...	...	...	Others	2 8	...	...
Field Officers, Captains, or Subalterns, Baggage Master ...	1		...	420	...	...	...	Field officers	2 7	...	...
			...	...	...	...	...	Others	2 8	...	...
Commandant at head-quarters (Field Officer)	1	According to rank.	...	420	...	...	...	2 2	7	...	...
(Detachment of Military Police.)												
Captain or Subaltern	1		96	...	1	9
Men and horses	10	180	...	...	...	...	...	...	...	...	...
Clerk, senior	3	90	...	...	...	...	...	...	...	...	...
Clerk, junior	8	54	...	...	...	...	...	...	...	...	...
Bookbinder	1	90	...	...	...	...	...	...	...	...	...
Lithographers	1	90	...	...	...	...	...	...	...	...	...

The Officer Commanding the Troops receives as representative of Government 3,000 roubles per mensem, and the General Staff an office allowance of 125 roubles per mensem, besides 50 roubles as supplementary pay for the men employed.

Note 1.—Besides the establishment here laid down, other persons may be attached temporarily for special duties as the G. O. C. may see fit and in unlimited number. All such persons receive pay on a special scale and allowances on the scale of the corresponding ranks of officers.

Note 2.—Besides his Personal Aide-de-camp, the G. O. C. may choose any orderly officers he likes from the troops under his command, but these receive no extra allowance.

Establishment of the various Staffs of the troops in Trans-Caspia approved by Prince Melikoff, A.D.C. to the Emperor, Commanding the Troops in the Caucasus, dated Tiflis 12th (24th) May 1880—contd.

Rank or Appointment.	Number.	YEARLY SCALE OF INCREASED PAY WITHOUT STOPPAGES.						Riding horses.	Scale of ration money.	Classed rank.	Scale of pension.	Remarks.	
		Pay.		Table money.		Extra allowance.							
		Roub.	Kop.	Roub.	Kop.	Roub.	Kop.						
II.—ARTILLERY STAFF.													
Officer Commanding Artillery, Major-General or Colonel ...	1	According to rank.	...	1,800	...	900	...	3	3	...	...
Senior Staff Officer (Field Officer)	1		...	420	...	...	...	2	8	...	...
Assistant to the above (artillery official or clerk and treasurer)	1		...	360	...	...	...	1	8	...	...
Clerks { 1st class ...	1		64	80	
{ 2nd class ...	1		44	90	
{ 3rd class ...	1	32	70	...	...	...	...	...	...	...	...
Office allowances per month, 25 roubles.	25												
III.—ENGINEER STAFF.													
Officer Commanding Engineers (Field Officer) ...	1	According to rank.	...	1,800	...	900	...	2	4	...	...
Engineer Officers ...	2		...	420	...	...	...	1	8	...	...
Conductors, 1st class ...	2		270	50 Kop. a day.	
Clerks, 2nd class ...	2	51	...	...	...	...	...	...	...	...	...
With the Park { Non-commis- and other sioned officers	1	27	...	...	...	...	...	...	...	...	...
depôts { Men	15	5	25	...	...	...	...	...	...	...	...
Office allowance per month, 25 roubles.	25												
IV.—INTENDANCE.													
Intendant* ...	1	1,500	...	1,400	...	...	...	2	6	VI	VII	
Officials with { 8th class	1	1,000	...	...	...	...	...	1	8	VIII	VI	
special duties. { 9th class	1	800	...	...	...	...	...	1	9	IX	VII	
Head clerks ...	2	900	...	600	...	...	...	1	8	VIII	VI	
Assistants to above ...	2	675	...	450	...	...	...	1	9	IX	VII	
Book-keeper ...	1	900	...	600	...	...	...	1	8	VIII	VI	
Assistant Book-keeper ...	1	675	...	450	...	...	...	1	9	IX	VII	
Treasurer ...	1	900	...	600	...	...	...	1	8	VIII	VI	
Interpreter ...	1	600	...	...	...	...	...	...	...	...	...
Clerks { 1st class ...	2	64	80	...	...	...	...	...	...	...	...
{ 2nd class ...	2	48	90	...	...	...	...	...	...	...	...
{ 3rd class ...	2	32	70	...	...	...	...	...	...	...	...
Storekeepers ...	2	27	...	...	...	...	...	...	...	...	...
Watchmen ...	4	6	60	...	...	...	...	...	...	...	...
Office allowance per month, 100 roubles; supplementary pay for employés, 50 roubles. Besides the above establishment, the Intendance has at its disposal for the formation of depôts:—													
Overseers ...	4	300†	...	300	...	...	...	1	9	X	VIII	
Clerks§ ...	4	64	80	...	...	...	...	...	...	...	...
Storekeepers ...	4||	48	90	...	...	...	...	...	...	...	...
Storekeepers ...	4||	32	70	...	...	...	...	...	...	...	...

* Has the powers of an Inspector of Supply Magazines.—*Author.*

† These depôts have office allowances as follows:—1st class, 5; 2nd class, 4; 3rd class, 3; and 4th class, 2 roubles.—*Author.*

‡ When appointed to charge of a depôt of 1st or 2nd class these receive the corresponding allowances.—*Author.*

§ Storekeepers are chosen from the troops and as magazines are opened.—*Author.*

|| If no military clerks are available, hired clerks may be taken on at 30 roubles a month.—*Author.*

Establishment of the various Staffs of the troops in Trans-Caspia approved by Prince Melikoff, A.D.C. to the Emperor, Commanding the Troops in the Caucasus, dated Tiflis, 12th (24th) May 1880—contd.

Rank or Appointment.	Number.	YEARLY SCALE OF INCREASED PAY WITHOUT STOPPAGES.						Riding horses.	Scale of ration money.	Classed rank.	Scale of pension.	Remarks.
		Pay.		Table money.		Extra allowance.						
		Roub.	Kop.	Roub.	Kop.	Roub.	Kop.					
V.—MEDICAL SERVICE.												
Principal Medical Officer ...	1	996	...	1,382	40	331	20	2	6	V.	II.	
Medical Officer, Assistant to above	1	759	...	829	20	331	20	2	7	VI.	IV.	
Secretary (Surgeon) ...	1	621	...	553	20	276	...	1	8	VIII.	V.	
Principal Veterinary Surgeon ...	1	759	...	829	20	331	20	1	7	VII.	IV.	
Assistant to above	1	498	...	276	...	220	80	1	8	IX.	VI.	
Hospital dressers { Senior	1	90	...	...	...	...	...	...	...	...	...
{ Junior	1	54	...	...	...	...	...	...	...	...	...
Office allowance per month, 15 roubles.												
VI.—FIELD HOSPITAL WITH 200 BEDS.												
Medical Staff.												
Medical Officer in charge ...	1	759	...	829	20	331	20	1	7	VI.	IV.	
Surgeons { Senior	1	621	...	553	20	276	...	1	8	VIII.	V.	
{ Junior	3	498	...	276	...	220	80	1	8	IX.	VI.	
Apothecary ...	1	582	...	553	20	276	...	1	3	VIII.	II.	
Druggist ...	1	498	...	276	...	220	80	1	8	IX.	III.	
Hospital dressers { Senior	2	90	...	...	...	...	...	...	...	...	...
{ Junior	4	54	...	...	...	...	...	...	...	...	...
Hospital compounders { Senior	1	90	...	...	...	...	...	...	...	...	...
{ Junior	1	54	...	...	...	...	...	...	...	...	...
Administrative Staff.												
Overseer ...	1	900	...	600	...	...	...	1	8	VII.	IV.	
Commissaries ...	2	630	...	420	...	...	...	1	8	VIII.	VI.	
Book-keeper ...	1	630	...	420	...	...	...	1	8	VIII.	VI.	
Chief Clerk ...	1	450	...	300	...	...	...	1	9	IX.	VII.	
Chaplain ...	1*	450	...	300	...	...	...	1	8	...	...
Chaplain's clerk ...	1	180	...	...	...	...	...	...	...	...	...
Clerks { Senior	4	54	...	...	...	...	...	...	...	...	...
{ Junior	4	36	...	...	...	...	...	...	...	...	...
Subordinate Staff.												
N. C. OFFICERS.												
Senior—												
Sergeant-Major ...	1	54	...	...	...	...	...	...	...	...	...
Cartakers of the kits of the sick	2	54	...	...	...	...	...	...	...	...	...
Capitaines d'armes ...	2	36	...	...	...	...	...	...	...	...	...
Junior—												
Superintendents of Washing of Clothes ...	2	36	...	...	...	...	...	...	...	...	...
Superintendents of Hospital Equipment ...	2	36	...	...	...	...	...	...	...	...	...
Soldiers.												
Ward servants (sick attendants) { Senior	6	18	...	...	...	...	...	...	...	...	...
{ Junior	14	13	50	...	...	...	...	...	...	...	...

* If two hospitals on this establishment are opened in the same place, only one chaplain is allowed, and he receives an allowance of 100 roubles per annum for the second hospital.—*Author.*

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Establishment of the various Staffs of the troops in Trans-Caspia approved by Prince Melikoff, A.D.C. to the Emperor, Commanding the Troops in the Caucasus, dated Tiflis, 12th (24th) May 1880—contd.

Rank or Appointment.	Number.	YEARLY SCALES OF INCREASED PAY WITHOUT STOPPAGES.						Riding horses.	Scale of ration money.	Classed ranks.	Scale of pension.	Remarks.
		Pay.		Table money.		Extra allowance.						
		Roub.	Kop.	Roub.	Kop.	Roub.	Kop.					
<i>Soldiers—contd.</i>												
Ward servants for cleaning the rooms, lighting fires, carrying food, wood, &c.	8	5	25	...	...	...	...	...	...	...	...
In the office, reception room and orderlies	8											
Cooks	6											
Bakers	6											
Acid-brewers	2											
Compounders' assistants	4											
At the disposal of the Commis- saries in the store	4											
Church servant	1											
Sextons	2											
Washermen	4											
Bath attendants	2											
Company sutlers	2											
Grooms	2											
<i>Artificers.</i>												
Tailors	2	5	25	...	...	...	...	...	...	...	...
Boot makers	2											
Joiner	1											
Carpenter	1											
Locksmith*	1											
Smith	1											
Wheel-wright	1											
Collar-maker	1											
<i>Hospital Transport.</i>												
Junior Non-commissioned Officer Drivers	2 20	7 5	80 25	...	...	...	...	...	...	...	...	...
Office allowance per mensem, 20 roubles; supplementary pay (rewards) for hospital person- nel, 5 roubles. ....	...			...	...	...	...	...	...	...	...	...
VII.—SECTION OF A MOBILE DIVISIONAL HOSPITAL OF 40 BEDS.												
<i>Medical Staff.</i>												
Superintendent, a Senior Surgeon	1	621	...	553	20	276	...	1	8	VIII.	V.	
Junior Surgeon	1	498	...	276	...	220	80	1	8	IX.	VI.	
Apothecary	1	498	...	276	...	220	80	1	8	IX.	VI.	
Dressers, { Senior	2	190	...	...	...	...	...	...	...	...	...
Hospital { Junior	2	54	...	...	...	...	...	...	...	...	...
Senior Hospital Compounder	1	90	...	...	...	...	...	...	...	...	...
<i>Administrative Staff.</i>												
Superintendent (Officer)	1	40	90	300	...	...	...	1	8	...	...
Junior Clerk	1	† 5	25	...	...	...	...	...	...	...	...

* Horses or camels for this purpose are told of by the General Officer Commanding.—*Author.*
† According to rank.

Establishment of the various Staffs of the troops in Trans-Caspia approved by Prince Melikoff, A.D.C. to the Emperor, Commanding the Troops in the Caucasus, dated Tiflis, 12th (24th) May 1880—contd.

Rank or Appointment.	Number.	YEARLY SCALE OF INCREASED PAY WITHOUT STOPPAGES.						Riding horses.	Scale of ration money.	Classed rank.	Scale of pension.	Remarks.
		Pay.		Table money.		Extra allowance.						
		Roub.	Kop.	Roub.	Kop.	Roub.	Kop.					
<i>Administrative Staff—contd.</i>												
Artificers {	Joiner	...	1	5	25	...	...	...	...	...	...	...
	Locksmith	...	1	5	25	...	...	...	...	...	...	...
	Smith	...	1	5	25	...	...	...	...	...	...	...
	Collar-maker	...	1	...	...	...	...	...	...	...	...	...
Non-commissioned Officers in charge of the administration.		...	1	20	55	...	...	...	...	...	...	...
Ward servants		...	12	5	25	...	...	...	...	...	...	...
Tram } Non-commissioned {		...	1	7	80	...	...	...	...	...	...	...
Soldiers } Officers Drivers. {		...	27	5	25	...	...	...	...	...	...	...
Office allowance, 10 roubles per mensem.												
VIII.—FIELD MEDICINE DEPÔT.												
Superintending Apothecary		...	1	582	...	553	20	270	...	1	8	VIII.
Assistant to above		...	1	498	...	270	...	220	80	1	8	IX.
Hospital { Senior		...	1	90	...	...	...	...	...	...	...	...
Compounder { Junior		...	2	51	...	...	...	...	...	...	...	...
Assistants { Senior Non-commissioned Officers.		...	1	20	...	...	...	...	...	...	...	...
to above { Junior Non-commissioned Officers.		...	1	7	...	...	...	...	...	...	...	...
Soldier assistants		...	4	5	...	...	...	...	...	...	...	...
Office allowance, 10 roubles per mensem.												
IX.—FIELD POSTAL DIRECTION.												
<i>Field Section.</i>												
Postmaster (in charge of field postal service).		...	1	1,350	...	900	...	...	...	1	7	VI.
Receiver		...	1	675	...	450	...	...	...	1	8	VIII.
Sorter		...	1	720	...	...	...	...	...	1	9	X.
Postman		...	1	540	...	...	...	...	...	...	...	...
Office allowance and packing money, 50 roubles per mensem.												
<i>Chikishliar Section.</i>												
Postmasters		...	4	675	...	450	...	...	...	...	8	VIII.
Sorter		...	1	720	...	...	...	...	...	...	9	X.
Postman		...	1	540	...	...	...	...	...	...	...	...
Office allowance and packing money, 50 roubles per mensem.												
X.—FIELD TREASURE CHEST.												
Treasurer with the rights of the treasurer of a detached corps...		...	1	1,263	10	1,233	10	...	...	2	6	V.
Assistant to above		...	1	962	32½	902	32½	...	...	1	7	VI.
Cashier		...	1	641	55	611	55	...	...	1	8	VII.
Principal Book-keeper		...	1	962	32½	902	32½	...	...	1	7	VI.
Book-keepers		...	2	641	55	611	55	...	...	1	8	VII.
Assistant Book-keepers		...	2	481	16½	481	16½	...	...	1	8	VIII.
Secretary		...	1	641	55	611	55	...	...	1	8	VII.
Officials charged with special duties.		...	1	962	32½	902	32½	...	...	1	7	VI.
		...	2	641	55	611	55	...	...	1	8	VII.
		...	1	481	16½	481	16½	...	...	1	8	VIII.

Note 1.—On the steamers between Chikishliar and Baku the post officials received the following daily allowance:—Sorters 60 kopecks, postmen 40 kopecks.

Note 2.—On land the postmen are to be soldiers chosen from the ranks who know how to read and write. Office allowance, pay of clerks, watchmen, &c., 500 roubles per mensem. For unforeseen expenses 125 roubles per mensem.

REMARKS.

(1) The scales of pay and allowances laid down in this establishment are, exclusive of the usual deductions for hospital attendance, medicines, pension, invalid, and emerital funds.

(2) All ranks shown above have a right to any further allowance to which they are entitled by regulation.

(3) Generals, Field, and Company officers classed medical officers, artillery and engineer officials and chaplains are allowed the number of soldier-servants permitted by regulation. All officials classed as commissioned officers, belonging to the Intendance, Hospital, and Postal services, for whom no special number of servants is allowed by regulation, have a right to one soldier-servant during the campaign, taken from one of the corps, in accordance with Imperial Order communicated in the report of the War Minister to the Commander-in-Chief, No. 3638, dated 7th (19th) May 1877.

(4) In case of necessity officers and officials more than two classes below that in which there is a vacancy, may be appointed to take over the duties of classed functionaries, except those of Medical, Postal, and Field-treasury officials.

(5) Over and above all allowances to officials of the Field Intendance Department, if the latter are detached from their proper stations, they receive, with the consent of the General Officer Commanding, the following subsistence allowance:—Commissioned officials 2 *roubles* 85 *kopecks* a day, besides table money, officials ranking with field officers 1 *rouble* 80 *kopecks*; officials ranking with company officers 90 *kopecks*, as laid down by Imperial Order of 11th (23rd) December 1876.

(6) All officers and classed officials shown on this establishment are reckoned as being on temporary command from their peace stations, and if their ordinary pay exceeds that which they receive according to this establishment, they have a right to retain it, as though they were not on command.

APPENDIX XXXV.

ESTIMATE.

The total sums assigned for the expenses of the Expedition in Trans-Caspia are:—

	<i>Roubles.</i>
I.—Money paid to the account of the Chief Intendant of the Force	
up to 1st (13th) March	693,932
To the Field Treasure chest up to 1st (13th) April	600,000
	<hr/>
Total for the Force	1,293,932
Money paid to the account of the Chief Intendant of the Caucasus, Military District, at Tiflis, up to 20th April (2nd May)	1,971,604
	<hr/>
Total	3,265,536
	<hr/>

Of the above, there was paid in hard cash—

	<i>Roubles.</i>
To the Chief Intendant, Field Force, up to 1st (13th) March ...	267,800
„ Field Treasure chest up to 1st (13th) April ...	300,000
„ Chief Intendant, Tiflis, to 20th April (2nd May) ...	175,000
Total ...	<u>742,800</u>

II.—Besides these sums in cash the following advances were made for the expenses of the Expedition :—

To Major-General Petrúsevitch on March 29th (10th April) and April 15th (27th) ...	520,000
To Colonel Ivánoff in Orenburg, 26th March ...	410,000
To the Mangishlák Commission, 12th (24th) March ...	200,000
To General Skobeleff, A. D. C., 25th March (6th April) and 18th (30th) April ...	60,000
Total ...	<u>1,190,000</u>

III.—Placed at the disposal :—

A. Of the General Staff: For condensing <i>apparati</i> ...	266,000
For a light railway ...	500,000
B. Of the Head-quarter Intendence Staff for payment to the "Caucasus and Mercury" Company for transport by sea of troops and stores ...	400,000
C. Of Colonel Iliashenko at the Astrakhan Treasury, for purchase of provisions ...	50,000
Total ...	<u>1,216,000</u>

IV.—There was also expected from the Central Treasury, to make up the sum of 7,207,000 *roubles*, assigned for the expenses of the Expedition in 1880, a further instalment of ... 2,991,000

Of which 220,000 *roubles* were to be in cash.

Total sums assigned therefore—

	<i>Roubles.</i>
As per I ...	3,265,536
II ...	1,190,000
III ...	1,216,000
IV ...	2,991,000
	<u>8,662,536</u>
Of which, there were assigned in 1880 ...	7,207,000
Remaining from former assignments ...	1,455,536
Total ...	<u>8,662,536</u>

APPENDIX XXXVI.

RETURN OF THE STORES, &C., TRANSPORTED ACROSS THE CASPIAN SEA FROM 1ST (13TH) JUNE TO 1ST (13TH) NOVEMBER 1880.

Ports of shipping cargo.	Ports of discharging cargo.	Date.	WEIGHT OF CARGO IN CWT.					Total cargo.	Number of ships.	Remarks.
			Hay.	Oats.	Provi- sions.	Ship's provisions.	Various.			
Astrakhan	Krasnovodsk	1st (13th) June ...	...	31,275 ¹	...	...	980 ¹	32,235 ¹	5	¹ Linnemann spades.
Do.	Place named by O. C.	Do.	...	6,244 ²	...	...	230 ²	6,244 ²	1	² Stores of Engineer Park.
Baku	troops in Trans-Caspia.	Do.	...	...	...	...	...	230 ²	Mail steamer	
Astrakhan	Krasnovodsk	10th (22nd) June ...	...	31,264	24,000	15,240	...	70,504	11	
Do.	Chikishliar	Do.	...	...	22,720	1,920	64 ³	21,640	3	
Petrovsk	Krasnovodsk	15th (27th) June ...	...	6,244 ³	...	...	...	6,244 ³	1	³ Cases for Linnemann spades.
Astrakhan	Petrovsk	Do.	...	...	...	...	720 ⁴	720	Mail steamer	
Do.	Krasnovodsk	25th June (7th July)	...	31,264	...	10,380 ⁵	...	47,644	7	⁴ 100 <i>kibitkas</i> .
Do.	Do.	Do.	...	...	...	...	1,472 ⁶	1,472	Mail steamer	⁵ Including 1,120 cwt. of tinned provisions.
Petrovsk	Do.	Do.	...	...	...	...	1,280 ⁷	1,280	Mail steamer	⁶ Tents.
Baku	Chikishliar	Do.	...	...	...	1,920	...	1,920	4	⁷ Hospital stores.
Astrakhan	Krasnovodsk	1st (13th) July ...	6,400	33,315 ⁸	9,600 ⁸	...	...	6,400	7	⁸ Biscuits.
Lankoran	Do.	10th (22nd) July ...	6,400	...	...	...	...	42,915 ⁹	4	
Astrakhan	Do.	15th (27th) July ...	8,000	...	...	...	...	8,000	6	⁹ Barrack and hutting materials, also material for construction of hospitals.
Lankoran	Do.	1st (13th) August ...	...	...	...	...	27,520 ¹⁰	27,520	4	
Do.	Place named by O. C.	Do.	...	...	...	...	1,280 ¹⁰	1,280	1	
Astrakhan	troops in Trans-Caspia.	10th (22nd) August	...	...	3,520 ¹¹	...	150 ¹¹	3,670 ¹¹	1	¹⁰ Single-horsed carts.
Petrovsk	Krasnovodsk	Do.	...	...	25 ¹²	...	25 ¹²	25 ¹²	Mail steamer	¹¹ Biscuit.
Do.	Chikishliar	Do.	...	...	...	...	2,401 ¹³	2,411 ¹³	1	¹² Boots and clothing.
Astrakhan	Krasnovodsk	15th (27th) August	8,000	...	...	...	...	8,000	5	¹³ Boots.
Lankoran	Do.	25th August (6th September).	...	...	...	...	640 ¹⁴	640	Mail steamer	¹⁴ 50 <i>kibitkas</i> , 600 <i>yulamei-kas</i> .
Petrovsk	Do.	Do.	...	...	...	...	...	...	Do.	¹⁵ Fur-capes.
Do.	Chikishliar	30th August (11th September).	8,000	...	...	...	448 ¹⁶	448	5	
Lankoran	Krasnovodsk	15th (27th) September	8,000	...	...	...	...	8,000	5	¹⁶ Fur-capes.
Do.	Do.	Do.	...	...	...	...	2,491 ¹⁷	2,491 ¹⁷	1	¹⁷ 50 <i>kibitkas</i> , 600 <i>yulamei-kas</i> .
Astrakhan	Place named by O. C.	October	...	20,800	17,600	11,200	...	8,000	8	
Do.	troops in Trans-Caspia.	To be sent off when ordered by O. C. troops in Trans-Caspia.	...	...	...	...	...	2,491 ¹⁸	1	¹⁸ Small-arm and gun cartridges, rockets, half a mortar battery, camel-harness and 10 breach-loading guns.
Baku	Do.	...	...	...	...	...	3,632 ¹⁹	3,632 ¹⁹	1	¹⁹ Cartridges, charges for shells, rockets, ammunition carriages and waggon, and harness.
Petrovsk	Do.	...	...	...	...	...	6,000 ²⁰	6,000 ²⁰	1	
		Total Cwt. ...	44,800	160,408	77,440	46,660	49,406	378,714	81	
		Tons. ...	2,240	8020 ⁴	3,872	2,833	2,470 ³	18,935 ⁷		

APPENDIX XXXVII.

RETURN OF STORES DESPATCHED FROM TSARÍTSIN BY THE VOLGA AND CASPIAN SEA TO KRÁSNOVODSK.

Description.	Weight in cwt.	Date of despatch from Tsaritsin.
Plant of a light field railway ordered from the Maltseff works	4,480	} 15th (27th) June.
Do. do. from Décauville	6,489·6	
Condenser, 5,400 gallons capacity, ordered from Nobel	960	} 1st (13th) July.
Plant of a light field railway ordered from the Maltseff works	8,051·2	
Do. do. ordered from Décauville	4,636·8	15th (27th) July.
Reservoir, 67,500 gallons capacity, for the condenser ordered from Nobel	512	} 20th July (1st August)
Plant of a light field railway ordered from the Maltseff works	9,251·2	
Do. do. ordered from Décauville	1,260·8	} 15th (27th) August.
Do. do. from the Maltseff works	6,046·4	
Condensing Apparatus from Nobel	3,520	25th August (6th September.)

APPENDIX XXXVIII.

ORDER TO THE TROOPS SERVING IN THE TRANS-CASPIAN TERRITORY, No. 4,
DATED FORT ALEXANDROVSK, MAY 2ND (14TH) 1880.

I have inspected the garrison of Fort Alexandrovsk (the Alexandrovsk Local Detachment, 5th *sotnia* of the Lába (Kubán) Cossack Regiment, Artillery, Hospital, Artificer, and Administrative detachments) and found them in the following state:—

(1) Alexandrovsk Local Detachment. The men have a smart appearance. The recruits did their drill fairly well, but not all together, and this remark applies also to the old soldiers. Independent firing and volley firing at 200 paces gave very good results, 75 per cent. and 50 per cent. The aiming was good. The cartridges were in a good state. Many rifles had scores and flaws. The officers do not know their work, as well as might be expected.

It is impossible to say much in praise of the rations. Besides 5½ *kopecks* for ship's provisions, the men receive a pound of meat a day each, but according to what every one says this meat is of very unsatisfactory quality, and scum appears on the soup. The men's quarters are unsatisfactory; those of the transport drivers (No. 42) are quite unfit for habitation. Building No. 42 is a low shed, the roof of which threatens to fall in. I am proposing

to the Commander of the Troops in Trans-Caspia to place the transport drivers in a hired *kibitka*. The married soldiers occupy three rooms ; in two there are four families and in one there are five, and there are no other buildings available for them. I am proposing to Major-General Petrúsevitch to have hired *kibitkas* pitched for them.

The soldiers' small books are irregularly kept. In some of them there are no entries of issues of clothing. Evidently the men do not understand the importance of these books.

Only one soldier, Fedor Jaroff, had a complaint to make. He said that he had entered the service in 1874, and had not yet been sent to the Reserve. On enquiry it appeared that when he was transferred to the Alexandrovsk Local Detachment no documents were sent with him to show when he actually entered the service. I am requesting the Commander of the Detachment to institute inquiries at once.

On looking through the records of punishments, I found that the crimes were not always entered with sufficient clearness. For instance, Private Nicholas Micháeloff was given 20 days' confinement on bread and water in a lighted cell "for refusing to receive 25 *roubles* from the Commander of the Detachment in the presence of his company mess-men"; Private Jeremiah Sonin was confined "for complaining against his officers—against Captain Boguslávski—because he was on parade in a forage cap and against Captain Soboleff because he was on parade in a frock-coat." The officers agree that the men behave well, and this is also shown to be the case from there having been but two severe punishments among the men, and a remarkably small number of entries in the defaulters' book.

(2) 5th *Sotnia* of the Lába (Kubán) Cossack Regiment.

Mounted drill satisfactory; also volley-firing at 200 paces. Horses and ammunition in good order. Rations the same as in the Local Detachment; quarters quite uninhabitable. The Commander of the Troops in Trans-Caspia has applied for tents from Petrovsk for the use of the Cossacks, but no answer has yet been received. I do not think it advisable to leave the Cossacks in their present quarters for a single day, and therefore I have proposed to Major-General Petrúsevitch to place them in hired *kibitkas*. It is somewhat surprising that the *Sotnia* should have 12 sick, whereas in the Local Detachment, which has three times as many men, there are only 15 sick.

(3) Artillery, Hospital, Clerks, Artificers, and Intendance Detachments.

The quarters of the Artillery, Artificers, and the Hospital Detachments are unsatisfactory. The Clerks and Intendance Detachments have tolerable quarters. The rations are of the same quality as in the Local Detachment and Cossack *Sotnia*. I would suggest that all such small detachments should be attached for rations to the Local Detachment.

In the hospital the air is very close. Of the patients four have scurvy. Disinfecting material is required for the latrines.

The Artillery stores are in good order. In the building in which ship's provisions are stored, the wind has damaged the roof. The garrison bath is the best and most correctly kept building of all.

Notwithstanding my above recorded remarks, considering the difficult nature of service in Trans-Caspia, and the unsatisfactory state of affairs, I think it my duty to thank Major-General Petrúsevitch, Commanding the Troops in Trans-Caspia, Colonel Navrotski, Chief of the Mangishlák Administration, and Lieutenant-Colonel Archangelski. I also thank their officers, especially Sub-Lieutenant Yanovski, and I heartily thank the soldiers.

APPENDIX XXXIX.

ORDER TO THE TROOPS IN THE TRANS-CASPIAN TERRITORY, No. 10, DATED
CHIKISHLIAR, 8TH (20TH) MAY 1880.

On the 4th, (16th), 5th, (17th), and 6th (18th), May I inspected the troops of the Krásnovodsk and Micháelovsk garrisons, and found them in the following state:—

(1) Krásnovodsk Local Battalion. The men have a fine and healthy appearance. Their set-up, manual and firing exercises, and drill are not quite satisfactory. The diminishing front was not well done, the pace was too hurried and laborious, not well-marked and not of the proper length. The battalion has not yet arrived at the proper standard in practical drill. I hope the Battalion Commander will use every endeavour to get on with the musketry course, confining himself to distances under 400 paces, and paying particular attention to volley-firing. When the alarm was sounded on the 4th (16th) May, the men were ready in a short time. At the drill carried out after this, the Battalion Commander, instead of words of command, used indistinct utterances in the conversational style. The officers' words of command were unsatisfactory. There was no criticism, and the drill was carried on in a very listless manner.

The men occupy somewhat narrow wooden huts in consequence of the bad state of the stone barracks. I have no further remarks to make on this subject. The married quarters are in dark and damp underground huts, small and unsatisfactory in the highest degree. I recommend the Commander of the Trans-Caspian district to take measures at once to provide better quarters for the married families, and I request him to submit a proposal to me. It would appear to me to be best to build a row of huts of the pattern used in Turkistán. Having noticed the half-ruined state of the stone barracks, I have applied for a special committee to enquire into the cause of this and to propose measures for their restoration. From the papers laid before me, it appears that, although the barracks do not threaten to fall down, they still require immediate attention to be paid to the arches of the doors and the places for staircases.

At my official inspection of the hospital, I found it in a satisfactory condition. I would direct the particular attention of Major-General Petrusévitch to the large amount of sickness amongst the soldiers, especially of scurvy. Out of the whole number of patients (53) 36 were suffering from this disease.

At my inspection of the 2nd Company of the Local Battalion at Micháelovsk, I found the men smart and healthy; there were absolutely no sick. The Company was drawn up to receive me without the drummer, who had remained in his tent and only appeared when I asked where he was. When the alarm was sounded the men fell in cheerily and quickly, but fronted towards the sea. Regardless of the isolated position of the company and the possibility of a Tekke raid, the Company Commander had made no dispositions for the event of an actual attack, and neither the half Company Commander nor the Non-Commissioned Officers knew what they would have to do. I request the special attention of the Battalion Commander to this, and for the future I direct that in every case written orders shall be issued to all officers, and the Commanding Officers must convince themselves that all thoroughly understand the spirit of such orders. Officers, in their turn, must see that

their Non-Commissioned Officers understand them, and they must be explained to the men.

The camp was clean and orderly. At the inspection of ammunition, everything was in order, but in one cartridge-box there were not the full number of rounds.

On the 6th (18th) May, when I asked if there were any complaints, I heard the following:—

(1) In the Local Battalion, Private Khairedinoff complained that he had only received two-thirds of his pay for 1879.

(2) In the Artillery and Intendance Detachments, 18 Non-Commissioned Officers and men complained that they had been enrolled in 1875, and had not yet been sent to the Reserve.

(3) None of the Non-Commissioned Officers and men had received this year's issue of clothing.

(4) In the 6th *Sotnia* of the Lába Cossack Regiment:—

(a) The Cossacks had received no shoeing allowance for the last two years. (b) They had had only one bath in the course of the whole winter and spring. (c) During the campaign of 1879, the Cossacks only received dry forage on three days, and all the rest of the time had no hay. At the end of the campaign the men each received 4 *roubles* from the Commander of the *Sotnia*, but Cossack Michael Gutroff did not get this money, and all the men complain that it was too little. (d) They received no spirits for two months of the campaign. (e) They received only 1½ lbs. of sugar instead of the prescribed 2 lbs. (f) During seventeen days of the campaign of 1878, they received no forage. For that time also they had each 1 lb. of meat and 1 lb. of biscuit less than the other troops of the Army. (g) For three months during that campaign, neither tea, sugar, nor spirits were issued to them. (h) In the same campaign, for seventeen days in July, they received only 10 lbs. of barley. (i) In the campaigns of 1878 and 1879, neither firewood nor money for firewood was issued to them. (j) At present they receive no fuel, and have only the steppe-grass they can themselves gather for their horses. (k) They received no spirits during the campaign of 1879. (l) In 1879 the detachment left at Krásnovodsk under Non-Commissioned Officer Domanoff received no tea, sugar, or spirits for the month of April. (m) In the campaign of 1879, at the fortress of Chát, they received no meat for nine days, and during the whole time the *Sotnia* remained at Chát in June and July, it received neither tea, sugar, spirits nor meat, and hay for six days and barley for two days only. (n) No forage money has been received for January, February, and March of this year. (o) By the reckoning of the Cossacks of the 1st section, there ought to have been saved out of their hay during the months of January, February, and March of this year, 59 *puds* (2129·9 lbs.), while the Commander of the *Sotnia* only gave out to the 1st section 4 *roubles* 50 *kopecks*, or the equivalent of 9 *puds* (324·9 lbs.). In the other sections, the amount issued for saved hay was much greater. (p) They had not received money for 30 *zolotniks* of barley *per mensem* for all last year except December, nor for this year except for January and February. (q) In February 1880, no hay was received for eight days; but instead of it 80 *kopecks* was given to each Cossack, *i.e.*, at the rate of 50 *kopecks per pud*, while the local price is 75 *kopecks a pud*. (r) The Cossacks received no boots or shoes of native pattern from the Society of the Red Cross. (s) Cossack Fedor Kharlam only received 5 *roubles* for a horse of his killed in 1876. (t) During the past war with Turkey, the Cossacks received neither meat, tea, sugar, nor fuel allowance. When they passed through Tiflis on their return home, each

man received 10 *roubles*, whereas, as was explained to them, the *Sotnia* should have received 7,895 *roubles*.

The drill of the 6th *Sotnia* of the Laba Regiment was very feeble. The most simple evolutions were performed in such disorder that I had to put an end to the inspection. Still the splendid turn-out of the men leads me to hope that they will do well in the field. I say this because the 5th *Sotnia* of the same regiment produced a most favourable impression on me. I attribute the bad state of the *Sotnia* exclusively to neglect of duty on the part of its Commander *Yesaul** Levshakoff; and bearing in mind the bad condition of the interior economy of the *Sotnia* as shown by the number of complaints, I am forced to recommend Major-General Petrúsevitch to remove this officer from the command of his *Sotnia*, and I order the *Sotnia* to take their orders from Major† Korde. I further recommend Major-General, Petrúsevitch to give orders for an immediate inquiry into all these complaints, and to make a report of the result to me.

Troops of the Krásnovodsk garrison. Standing as you do in the immediate vicinity of the enemy, you require more drill and more military ardour. I hope to convince myself at no distant date that you have fulfilled my demands, and that you will have a chance of showing yourselves true brethren of the glorious Army of the Caucasus.

(Sd.) SKOBELEFF,

*General and A. D. C. to the Emperor,
In Temporary Command of the Troops.*

* Captain of Cossacks.—J. M. G. | † *Voiskovoi-Starshina*.—J. M. G.

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